F.C.f.

A
TREATISE
ON
EXPERIENCE
IN
PHYSIC.

By Zimmermann

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MVSEVM
BRITAN
NICVM

TO THE

READER.

THE following work was originally publiſhed in German, by Doctor ZIMMERMANN, (firſt phyſician to his Majeſty, at Hanover, member of the royal academy of ſciences at Berlin, of the œconomical ſociety, at Berne, in Switzerland, &c.) whoſe merit is already well known in this country, by his Treatiſe on the Dyſentery, and his Eſſay on National Pride.

With reſpect to the preſent performance, the editor, in juſtice to Doctor Zimmermann, thinks it right to inform his readers, that the tranſlation is not, in every place, ſtrictly conformable to the original; many paſſages being abridged, and ſome few omitted. The greater part of theſe omiſſions and alterations are explained and apologized for in the notes. All the notes to this work are by the editor; they are numerous, and many of them are long ones. If any of them ſhould be thought tedious and unneceſſary, his only apology is, in the goodneſs of his intentions. His great aim has been to render this a uſeful work to Gentlemen who devote themſelves to the ſtudy of phyſic; and how well he has ſucceeded in his attempt, he moſt reſpectfully leaves to the candid and judicious reader to determine.

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A TREA-

A TREATISE

ON

EXPERIENCE. &c.

BOOK I.

CHAP. I.

Of the different Ways in which we acquire Knowledge.

THAT the reader may the better underſtand the Ideas I have formed to myſelf on the ſubject of Experience, I will begin by pointing out to him the different ways in which we acquire knowledge.

We acquire knowledge by means of the ſenſes, and by the reflections that ariſe within the mind, in conſequence of impreſſions made on it by objects that have affected the ſenſes. (*a*)

(*a*) "Let us ſuppoſe the mind to be as white paper, void of "all characters, without any ideas; how comes it to be furniſhed? whence comes it by that vaſt ſtore, which the buſy "and boundleſs fancy of man has painted on it, with an almoſt "endleſs

Amidſt the great number of objects which the vaſt theatre of the world affords us, the ſenſes embrace as many as they poſſibly can, and confide the impreſſions made by them to the memory. This, then, is the ſource of the ſimple ideas with which the ſenſes ſupply us.

It is the buſineſs of the mind to compare, arrange, and connect together, theſe ſimple ideas; to find out the affinity they have to each other, and to form from them complex ideas, From theſe are to be deduced certain principles from which concluſions are to be drawn. Theſe concluſions either flow naturally from ſimple and certain principles, or, are the conſequences of many compound principles, both certain and uncertain; and in this caſe, the united faculties of the mind may be ſaid to act.

The Sciences differ more from each other by the variety of theſe principles, than by the diverſity of their objects. Some of their principles are clear, ſimple and certain; and finding all the avenues to the mind open, eaſily enter into it, and bring conviction

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" endleſs variety? whence has it all the materials of reaſon and " knowledge? To this I anſwer in one word, from *Experience:* In " that, all our knowledge is founded; and from that it ultimately " derives itſelf. Our obſervation employed either about external, " ſenſible objects; or about the internal operations of our minds, " perceived and reflected on by ourſelves, is that which ſupplies " our underſtandings with all the materials of thinking. Theſe " two are the fountains of knowledge, from whence all the " ideas we have, or can naturally have, do ſpring. *Locke's Eſſay* " *concerning Human Underſtanding*. Book II. Chap. 1.

along with them. Others there are, which require to be more deeply examined, and which afford no light to the underſtanding, but by the favor of Experience, by whoſe means alone we can hope to comprehend them. Perſuaſion, however, does not accompany theſe as it does the others, becauſe they are not ſo eaſy to be underſtood. The knowledge that flows from clear, ſimple and certain principles, forms a part of the mathematics, there being nothing ſo certain as the pure mathematics. That which is derived from compound principles, that are in part certain, and in part uncertain, more eſpecially comprehends moral philoſophy, the art of government, the art of war, and the healing art.

Neither Phyſic, nor any of the other ſciences we mentioned with it can be ſo certain as the mathematics, there being uſually ſome doubts remaining after all the proofs that can be brought to remove them. phyſic, ſeems, above all others, to require a very liberal, active and penetrating genius, becauſe the Phyſician, being often obliged to confine himſelf to ſimple probabilities, will be unable to trace them to their higheſt degree, without an extreme ſhare of penetration; and by being almoſt conſtantly expoſed to the application of principles, which cannot be ſubmitted to the evidence of his ſenſes, he muſt neceſſarily become an inventor in the practice of his art.

Simple ideas form the baſis of each particular Science. The induſtry of the multitude is employed in drawing theſe from the moral and phyſical world, and delivers them up in this ſtate to the philoſopher, who examines them with a careful and penetrating eye;

and,

and, ſelecting what are uſeful from the maſs, preſerves theſe, and rejects the reſt.

This fund of ſimple ideas can never be too abundant. We owe much, both to him who collects every thing at random, without carrying his views any farther; and to him, who, being more intelligent, culls with taſte only, the choiceſt objects that preſent themſelves to him. We are likewiſe much indebted to men of great genius, who, like Democritus, Ariſtotle and Bacon, conſider Nature in all her parts, and thus give before-hand to poſterity, the matter which is to become the fertile ſource of general ideas, and the moſt enlightened truths.

In proportion, as the Sciences become more extended, every thing we know in Nature, will find its true deſtination. Poſterity, will in this reſpect, derive much from the writings of our Academies. Every thing that is uſeful will be extracted, and men will arrange the whole in the way, that is likely to be the moſt uſeful to them. There will then be fewer books, but the ſtock of ideas will be increaſed. Why ſhould not ſuch an occupation be even now the employment of thoſe who have leiſure to undertake it, and talents to execute it? Such extracts can never be the works of ignorance.

It is philoſophy alone, that can enable us to profit from the perceptions of our ſenſes, and extend the limits of our underſtanding; becauſe true philoſophy is the art of directing the reaſon in all her enquiries, and enables us to combine and arrange the ideas we have acquired thro' the medium of our ſenſes.

The whole of my work is, therefore, written with a view to aſcertain a certain chain of principles, the knowledge and application of which, conſtitute what I call Experience. But there being many rules, which, although of immediate utility, and even of indiſpenſable neceſſity, may be liable to become either of no uſe, or difficult to be underſtood, for want of examples; I will, therefore, not only make the reader ſee what is meant by Experience in Phyſic, but will conduct him to it in the moſt natural manner.

* * *

CHAP. II.

Of falſe Experience.

IN general, Experience is conſidered as the ſimple produce of the ſenſes. The underſtanding ſeems to come in for ſo ſmall a ſhare, that every thing that is intellectual in it, is regarded as having as much of *materiality* as the perceptions of the ſenſes. This is what I call *falſe experience*, becauſe it is either founded on obſervations that are falſe in themſelves, or improperly reflected on and of courſe inſufficient; or, that are erroneouſly deduced from principles that are in themſelves not well founded.

Commonly too, the name of EXPERIENCE is given to that knowledge, which is acquired by the ſimple reiterated intuition of the ſame object. Suppoſing this principle to be well founded, it is only neceſſary to have travelled much, to acquire the greateſt experience in a knowledge of the world. An aged officer will have all the Experience that is poſſible in the art of war; and an old nurſe will be preferable to the moſt experienced phyſician. On the ſame grounds, the phyſician who has ſeen the greateſt number of patients will be the moſt inſtructed: and, indeed, the people always prefer ſuch a one. The multitude, without concerning themſelves about the true character of Experience, readily give that confidence to the old woman and the old doctor, which is due only to long and true Experience. They inquire not, whether he is a man of learning, and penetration, and genius; if he has gray hairs, it is ſufficient. Theſe inconſiderate deciſions, are derived wholly from the idea, which the leſs enlightened part of men form of old age. They ſuppoſe, that an old man has thought more than a young one, becauſe he has ſeen more. It is on this account, that we ſo often ſee old men inconſiderately reverenced, who are unworthy of the leaſt eſteem; and that the moſt ſtriking, and even brilliant actions ſometimes loſe all their value:—*He is a young man*, they ſay.

There is only one prerogative which the young man of merit is unable to diſpute with ignorance in gray hairs, and that is the number of years: and yet, alas! we ſee the idea of Experience attached to this prerogative, piteous as it is; and the old man is always enabled by it to keep the young one at a diſtance, like an old and ſapleſs tree, which by its withered branches prevents the young and promiſing plant from riſing.

This prejudice is the more injurious to the young man, becauſe when compared with the old one, he continues always to be young. I have often ſeen people of weak minds, who conſtantly conſidered a young man of merit, as a young man, notwithſtanding his accompliſhments and capacity, merely becauſe they ſaw him come into the world. They always ſpoke of him in the ſame ſevere and impoſing tone, even although he might be much ſuperior to them in ſtation

tion as well as in talents. Methinks I hear the nurſe of a General covered with wounds, crying out, '*Ay, I have often danced him in my arms.*'

Age certainly affords us an opportunity of enlarging our underſtanding, but every one is not diſpoſed to do this ; nor is every capacity ſuſceptible of it. The old age of a phyſician who is reſpectable for his merit, is an honourable old age. Glory follows all his ſteps. The younger members of the profeſſion give him all their reſpect and eſteem. They call him their father, their Mentor. He is their only guide in the obſcurity which frequently ſurrounds them. But ancient days, after a life of little eſtimation, or rather, the old age of a weak brain, is ignominy. Truly, can ſeventy years of ſtupidity, ever render a man reſpectable ?—An old phyſician without merit, in my eyes, appears only as a man who is become once more a child. All his powers lie in his obſtinacy. Theſe ſtupid old men do not conſider that even at their birth, they were ſeventy or eighty years old.

It will be perceived, therefore, that *falſe experience* is nothing more than a blind routine, directed by no law whatever. This routine is confined, as it were, to a circle of certain actions, and to the repetition of certain maxims, the nature and reaſon of which are equally unknown. In a word, a phyſician who practices by routine, exerciſes an art of which he knows not the principles, and he is the more careleſs about them, as the people, who employ him, generally ſuppoſe them to be as uſeleſs as he does.

By the terms *people* or *vulgar*, I ſhall imply through the whole of this work, thoſe perſons, who, giving themſelves but little concern about what has been written or ſaid on matters of Science, in different ages, and incapable at the ſame time, of comprehending the diſcoveries and truths that are offered to them: ſee every thing through a falſe or obſcure medium; and thus are led to conſider routine as the baſis of human knowledge, and, of courſe, to miſtake it for true genius.

I may be permitted in a work like this, to offer ſome reflections on this abuſe. Every reflection is well placed, when it is intereſting in itſelf, and, at the ſame time, connected with the chain of fundamental propoſitions that compoſe the work. At any rate, it ſeems laudable to oppoſe and detect abuſe, and eſpecially when it ſeems liable to exert its influence on perſons of every ſtation.

It is on this blind routine that the vulgar uſually found their ſyſtem of education. What unhappy conſequences may not be expected from the conduct of maſters, who, in conformity to a received practice, and without extending their inquiries farther, aim only at the rendering the heads of their pupils as ſtupid as their own. Inſtead of unfolding the underſtanding of their ſcholars, by teaching them to fix their attention on every thing that ſurrounds them, they fill their minds with a thouſand abſtract ideas at once,—ideas, which neither the maſter nor the ſcholars will ever be able to comprehend as they ought to do.—It cannot be thought ſtrange, therefore, if the ſtumbling-blocks which the ſtudent encounters at every ſtep, ſhould limit his underſtanding within very narrow bounds, and thus force him, as it were, into a round of ſervile imitation, as appearing to be the ſhorteſt and the eaſieſt of acquirement. And yet this is an abuſe into which almoſt all our maſters fall, and all of them give their reaſons for it, either good or bad. Some of them are of opinion, that we ought to ſee only with the eyes of the moſt remote ages. Thoſe ancients, ſay they, were reſpectable men in every way, and we muſt, therefore, adopt their methods. Others, who are incapable of weighing the true merit of the ancients, and too conceited to acknowledge any degree of learning in their contemporaries, are like a pilot without a compaſs, whoſe whole reſource depends on the firſt ſtar he may happen to ſpy out, and thus ſteering by chance, he may at laſt, perhaps, get into harbour: but how will he get there? Why, in the way that theſe ſame maſters do; by following the common track, without reflecting on the rocks he was expoſed to in his paſſage, and which would certainly have proved fatal to him, had he chanced to have touched them. Some others there are, and perhaps ſtill more blameable, who are too little enlightened to be enabled even to doubt with any method. The moment they have opened a few books, they fancy themſelves on a footing with the greateſt men. They are ſoon ſatiated with inſtruction, and they found their experience on a collection they make, tho' not always without diſdain, from the precepts they imagine to be the beſt conceived; and they do not perceive, that in doing this, they proceed more blindly than they would do, were they to follow the ordinary routine.—Such, however, is too often the apparatus with which a diſciple appears before the public, and under the eye of his maſter, who is not a little proud of having filled his head with theſe precepts, and who does not foreſee that, with this borrowed learning, the ſcholar will not fail to be overturned by the leaſt difficulty that ſhall preſent itſelf.—Can we be ſurprized, therefore, if children or young perſons inſtructed in this way, ſhould become only very moderate ſubjects in a more advanced age, after having afforded the moſt promiſing hopes; and yet this is what we ſee happen every day, and what muſt neceſſarily be expected to happen, whilſt ſo improper a ſyſtem of education continues to be adopted.

This blind attachment to a routine, every day deprives Society of the greateſt advantage ſhe has a right to expect from her members. It is a melancholy truth, that men educated in this way, can never be capable of knowing, as they ought to do, the phyſical and moral man. This acquirement, which may be conſidered as the common principle of happineſs in Society, and as the firſt and moſt noble branch of our knowledge, is always diſguiſed and miſunderſtood by theſe narrow-minded maſters, although it is ſo eſſential to the forming a good citizen.

Phyſicians ſeem to be more intereſted in the acquiſition of this knowledge, than any of the other claſſes of civil life. The paſſions come in for ſo great a ſhare in diſeaſes, that it would ſeem criminal in a phyſician to enter into practice, without having particularly applied himſelf to the ſtudy of man.

There are people who imagine that nothing is ſo eaſy to acquire as this ſublime knowledge. But where do they ſeek for it? In the converſation and company of perſons who have, perhaps, never been open to reflection, or who are filled with prejudices, and who condemn or approve, from principles they imbibed in their youth. It is, nevertheleſs, people of this ſtamp, who, in a more advanced age, are every day vaunting their experience, and who do not conſider, that we might ſay to them, as a young Soldier did one day to an old Captain: "*The only advantage* "*you have over me, is, in the having worn out more* "*ſhoes.*"

In good truth, we every day ſee, how much this pretended experience is found to be barren and impotent; and, indeed, this muſt neceſſarily happen with thoſe who have ſtudied neither Man nor Nature.

Agriculture was for a long time languiſhing in the hands of ignorant people, who were ſlaves to a routine. It cannot be expected, that the peaſant ſhould of himſelf examine the myſteries of nature, without being led to them by the Philoſopher. Uſually, he has only enough of underſtanding to plough and to ſow and to reap: He ſeldom has reaſon enough to liſten to advice. The power of prejudice is ſo great, that the moſt miſerable peaſant feels a pleaſure in enjoying the full ſcope of his obſtinacy. If an intelligent cultivator gathers more corn in one year, than this peaſant does in ten, he exclaims, '*I ſhould never* '*have thought this*;" but ſtill he trudges on as uſual, and religiouſly adheres to the practices of his father and grandfather, without once inquiring, whether by adopting his neighbour's methods, he might not procure a ſimilar crop. The Minorquins, inſtead of pruning their trees, as they ſaw the Engliſh do who came amongſt them, contented themſelves with ſaying, that Providence beſt knew how trees ought to grow. Within theſe few years, however, a laudable ſpirit for improvement ſeems to have exerted itſelf, and ſocieties have been eſtabliſhed in different parts of Europe, which will ſoon, we hope, entirely remove the veil of ignorance and ſuperſtition from Agriculture. We will not inquire here, whether it was corn or iron; or in other words, whether it was hunger or ſtrength that firſt began to civilize men. But we begin now to be convinced, that, with a little portion of land and the implements of huſbandry, we are enabled to live more at our eaſe than thoſe vaſt empires do, whoſe fleets return home freighted with the riches of the new world.

It is with the Artiſt as with the Peaſant. He willingly confines himſelf to that which he derives from his predeceſſors, without wiſhing to extend his knowledge any farther. Without any other art or addreſs than mere habit, he conſtantly exerciſes his hands at the ſame work in the ſame manner. As he is ignorant of the inventions of others, he ſeeks for no new lights; that which he knows, is, in his own opinion, ſufficient. It is not the ſhorteſt, but the beſt known route that he ſeeks after, although it ſhould be the longeſt. The whole of his knowledge lies in habit. There happened not long ago, at Paris, ſufficient proofs of what I am now advancing. Of the men of genius, who united to compoſe the great work, which does ſo much honour to the French nation, there were ſeveral who undertook to viſit the ſhops of different artiſts, and interrogate them on the ſubject of their tools and manner of working. Theſe gentlemen were ſurprized to find, that of the many artiſts they viſited in this way, hardly twelve were able to give any clear account of theſe matters. They met with ſeveral who knew not even the names of the tools they had been uſing during forty years.—Rouſſeau calls theſe people machines, which ſerve only to put another in motion.

What ſhall I ſay here of the influence of habit on the art of Government; an art, by the bye, that is more eccentric if poſſible, than the human mind? Time, which inſenſibly changes the genius and the manners of men, would ſeem likewiſe to allow occaſional modifications in the fundamental laws of a ſtate. Do not the continual revolutions, which produce ſo many changes in civil ſociety, afford ſufficient reaſons for introducing, at leaſt to a certain degree, ſome alterations in the mode of government? If we throw our eyes over the different ſtates of Europe, do we not obſerve ſufficient proofs of the neceſſity of ſuch changes? If men were always of the ſame way of thinking, invariable laws would become plauſible, and even neceſſary: But the inſtability of the human mind proves but too clearly, that the ſyſtem of Government ought to vary as much as Man varies within himſelf.

I do not mean to aſſert, however, that the art of Politics has no determinate principles. It is always the advantage of a ſtate, and of courſe, the welfare of each individual, which ought to be its leading objects. There is, indeed, no art, the principles and rules of which are more ſimple than of this, if the ſpirit of government is underſtood as it ought to be.

Were ambition once rooted out, politics would ſoon become an art that would render the ſovereign, the magiſtrates and the people happy. The greater part of politicians ſuppoſe themſelves capable of foreſeeing and executing every thing, when they have propoſed to themſelves as a model, ſuch or ſuch a great man. But they do this, without reflecting that they are no longer, perhaps, in the ſame circumſtances, and that to imitate ſuch a great man, they ought, neceſſarily, to poſſeſs his genius and capacity. Without theſe, they only expoſe their temerity. The one is like a great painter, who conveys his ideas with the moſt exact and lively expreſſions; whilſt his imitators do, at the moſt, give the outlines of his work. It was, without doubt, to perſons of this ſtamp, that Socrates and Bolingbroke alluded, when they obſerved, that of all the ſciences, that of government ſeemed to require the leaſt ſhare of application and knowledge.

The art of war, intended as it is to defend the rights of men, is, in the eyes of many people, only a matter of imitation.—They fancy, that with courage, and moderate abilities, it is eaſy to become a true warrior. We ſeldom ſee even an officer, who ſuſpects that his art ſuppoſes many parts of knowledge neceſſarily connected with erudition. There are but few who think, with the Chevalier Folard, that the art of war is only a trade with the generality of men, and a very refined ſcience in the hands of men of genius.

nius. If the vulgar prejudice were well founded, a lieutenant who can ſhew ten ſcars, or a drummer who has ſeen ten campaigns, would be men of conſummate experience.

But let us paſs on to phyſic. This art, in the opinion of the multitude, conſiſts in poſſeſſing a ſuitable receipt for each infirmity to which we are liable. This ſuppoſition confounds the phyſician with the empiric. An empiric in phyſic, is one, who without knowing or conſidering the operations of nature, or without inquiring into the cauſes and ſigns of a diſeaſe and its indications, or the opinions and obſervations of different ages concerning it, ſimply aſks its name, and then adminiſters his drugs at random, or one after the other. The experience of ſuch a man muſt be always falſe, becauſe he practices an art of which he knows not the principles, and follows the receipts of others, without inquiring for what reaſon. In the firſt ages of phyſic, it was neceſſary to ſee diſeaſes before they could be examined and their cauſes dived into. This is the reaſon too, why empirics deſire to ſee the ſick, but at the ſame time, are neither willing to inquire into what they ſee, nor to know what they do. They reject all information, oppoſe all principles, and ſuppoſe themſelves to be inſtructed, as it were, by heavenly inſpiration, in all that is worthy of being known. Theſe people, it is true, are ſuſceptible of certain combinations; but their combinations embrace only the firſt ideas of things, or rather, only the perceptions of the ſenſes. Their logic does not ſeem to extend beyond inſtinct.

It is by no means difficult to aſcertain the cauſes of the different abuſes of which we have ſpoken hitherto: The firſt and the principal of them, may be aſcribed to the groſs idea men in general have of Experience. An ingenious gentleman has very properly obſerved, that it is impoſſible to conceive in what direction, and with what rapidity, the arm muſt be moved, to hit a mark with a ſtone at a certain diſtance. This addreſs can only be acquired by Experience. It is certain, that by uſe one learns how to manage a gun, a hammer, or an ax; but it is equally certain, that it would be abſurd to expect from uſe alone, a ſkilful general; or a Palladio, from an old workman.

The mechanical trades may be learnt by habit; but there are means of ſupplying an artiſt with ideas which habit will never give him. He works with propriety, but without knowing the principles of his art; he, therefore, is deficient in an infinite number of reſources, with which the philoſopher only can ſupply him. It is from a want of reflecting properly on this genius of arts and trades, that the vulgar confound the phyſician with the ordinary artiſt. The one profeſſes a ſcience that is purely intellectual; the other, an adroitneſs that lies wholly in the fingers.

The hatred conceived againſt every thing that has the air of novelty or innovation, makes us love and adhere to ancient methods. Were we to believe thoſe old men, who employ themſeves wholly in praiſing the times paſt, there was not an ignorant man in their day: unhappily for them, however, they are the living proofs of the falſity of their affection. May I be permitted to ſay here, that I know many people, who with heads that are well framed, do not read a book; and this merely becauſe it is a new one. It is even ſufficient with theſe perſons to ſpeak of a new work with ſome eſteem, to make them conceive that it is an ignorant one; and to endeavour to make them think differently on any ſubject from what they have been accuſtomed to do, would be to riſk the being hated by them, as much as the Engliſh were by the Iriſh formerly, becauſe they prohibited them from harneſſing their horſes by the tails, according to ancient uſage.

Long eſtabliſhed cuſtom is pleaſing to the narrow minded, the idle, and the indolent, becauſe it is not difficult to do what one has always ſeen done. It is likewiſe much eaſier to eſtabliſh three principles, to determine the nature of diſeaſes, as the ancient Methodiſts did, and to oppoſe only three formulæ to theſe diſeaſes; or to reject all rules whatever, as the empirics do, than it is to dive deeply into the healing art. What can be more conciſe, or more eaſy, than to confine ourſelves to one book, or to one remedy, and to reprobate all the knowledge that is not in that work, or all the remedies which do not agree with that we have adopted.

It is certainly much eaſier, to gain by a ſervile complaiſance, the vile applauſes of the populace; or to procure praiſe and protection from friends who have been won by flattery; or to rob the man of true merit of his reputation, by circulating idle reports to his diſadvantage, which the people are but too readily diſpoſed to liſten to, and even to publiſh, and to add to; all this, I ſay, is much eaſier than it is to riſe by true merit. The phyſicians in Chili blow around the beds of their patients, to drive away diſeaſes.—The people there think, that phyſic conſiſts wholly in this wind, and their doctors would take it very ill of any body who ſhould attempt to make the method of cure more difficult. They think they know enough, when they know how to blow.

The multitude are attached to a blind routine, becauſe all ignorant people approve of it. It is condemned only by thoſe phyſicians, who are men of ſenſe. In general, men are pleaſed at meeting with their own way of thinking in others. It has been remarked, long before our time, that it is always ſelf-love that decides either the hatred or the affection, the reverence or the contempt we entertain for others; and that it is likewiſe by the ſame principles, we judge of their merit. A man of ſenſe is ſure to find an enemy, if he does not endeavour to flatter his ſelf-love: and he is at the ſame time deſpiſed by the ignorant multitude, becauſe he condemns, or does not adopt their errors and prejudices; and becauſe the truth, and the good and the learned things he approves, are exactly thoſe which are deſpiſed by the vulgar. The more a phyſician is endued with genius and penetration, the more is he expoſed to the ſhafts of ignorance. Agathias deſcribes to us, in his hiſtory, a very ignorant empiric, who at the ſame time, talked in the moſt daring manner on ſubjects which he did not at all comprehend. * This Uranius went in the ſuite of an ambaſſador, to Conſtantinople, and there he pleaſed the King Coſroes ſo much, that this prince, who had invited to his court, and afterwards ſent back, the moſt celebrated philoſophers of Greece, ſaid he had never met with ſo ſenſible and diſcerning a man as Uranius. The motives to this approbation, adds the hiſtorian, are not difficult to be inveſtigated. We all of us feel ourſelves drawn towards thoſe who reſemble us. A genius like our own, pleaſes us; and it is ſufficient for another to ſhew himſelf ſuperior to us, to be received with diſguſt. It is, in truth, a reflection very humiliating to humanity, to recollect all the prejudices which declare themſelves for ignorance, ſuperſtition, *&c.* and which have eſtabliſhed their empire in ſociety. But this reflection becomes ſtill more melancholy, when we reflect that theſe prejudices tend to the ruin of our peace, and our health, and, at length, conduct us to the grave. Let us examine more minutely, the fatal conſequences of theſe abuſes.

Firſt. Civil ſociety is greatly injured by them. The idle reſpect that is paid to ancient uſages, occaſions an indolence which often extends its influence over men of the brighteſt talents. This indolence prevents us from ſuppoſing that we may, perhaps, be in an error, and we are conſtantly falling from one fault into another. If a prejudiced man, is a man of weight, either by his own abilities, or by his reputation for cleverneſs, how many ills may he not occaſion. The moſt ſage views, the beſt concerted projects, the ableſt, and moſt ingenious plans, will be preſented to no purpoſe, when ſuch a man ſhall have the right and the power of ſaying, ‘ *this thing does* ‘ *not pleaſe me.*’ He will feel, perhaps, that he is wrong, but ſhame will prevent him from acknowledging himſelf to be ſo, and he will be unwilling to commence apprentice, after having been ſorty years a maſter. How few are there in the world, who reliſh this reflection of Horace: "*Cur neſcire pudens* "*pravè quàm diſcere malo?*" reſembling, in this, the ſavages of Louiſiana, who, when arrived at the age of manhood, refuſe to embrace Chriſtianity, becauſe they are too old to practice rules that are ſo difficult. The ſciences, the arts, and even juſtice and humanity, diſappear under the influence of routine; when, to the deſire of cauſing virtue to be reſpected, there is not joined the power of effecting it.

Secondly. Theſe prejudices diſconcert young people. There are few of theſe, who in this general confuſion, have enough of abilities and courage to re-animate their ardor, and exert their care and activity: and who, by ſacrificing the early part of their life to ſtudy and fatigue, diſarm ignorance, and break the ſceptre of ſtupidity, at the riſk of their repoſe, their fortune, and reputation. Surrounded and attacked on every ſide, the young man, notwithſtanding all his efforts, either falls back into mediocrity, or is borne down the tide of prejudice.

Theſe prejudices are therefore very repugnant to the progreſs of medical knowledge. As there is no form, according to Socrates, which the genius of the ignorant vulgar does not aſſume, theſe obſtacles are perpetually multiplying. A phyſician, who is a man of reaſon, can, therefore, hope to be careſſed only by thoſe who reſemble him. But he will do wrong, if he attempts to appear wiſe before mad people. The opinions he delivers on diſeaſes; his methods of treatment, and his remedies will be conſtantly blamed or deſpiſed by thoſe to whom his manner of thinking is obnoxious; and he will be very fortunate, if he is not accuſed of mixing poiſon with his preſcriptions.

Till the time of the Mamalukes, Ægypt had phyſicians who practiced with learning, probity, and zeal. But thoſe barbarous and ignorant tyrants repaid the care of their phyſicians by extreme cruelty. Their profound ignorance depriving them of the leaſt knowledge of the principles of phyſic, they ordered their phyſicians to relieve them on the leaſt ſenſation of pain. The phyſicians, thus obliged to regulate their conduct by the blind caprice of theſe abſolute maſters, no longer aimed at curing with any preciſion, but at pleaſing their princes by an empirical practice; and, without conſidering the principal ſeat of the diſeaſe, turned their attention wholly to ſome particular ſymptoms, which it ſeemed neceſſary to mitigate in the inſtant; and when the pains were moderated, they left the ſource of the complaints to nature, and the tyrants to their fate.—By theſe methods, they ſucceeded in pleaſing their maſters; and ſince that period, phyſicians in Egypt, are on a footing only with old women.

True genius will never be met with in a phyſician who gives marks of duplicity, or meanneſs of ſpirit; who is capable of pocketing affronts, and ready to laugh with the idle and the fooliſh, or to ſacrifice to every idol. Galen, who deſervedly acquired ſo great a reputation by the many eminent good qualities of his mind and diſpoſition, and who had collected within himſelf all that men before his time had known of nature, complains feelingly of many phyſicians in his days who were not aſhamed to attend in the morning at the toilet, and make their court to the ladies; and at night to be of the moſt ſumptuous parties. In this manner, by modelling themſelves to every faſhion, they aimed at eſtabliſhing a reputation. And this the reaſon, adds this reputable man, why the fine arts and philoſophy are conſidered as very uſeleſs branches of a phyſician's knowledge. Ought we, then, to be ſurprized that ignorant mechanics ſhould quit their trades, for the ſake of practiſing phyſic; or, that perſons who have learned only the art of preparing medicines, ſhould have the boldneſs to conſider themſelves as phyſicians, and undertake the treatment of diſeaſes? Pliny has very well obſerved, that he who has impudence, may very eaſily paſs for a phyſician.

This way of thinking, which has been ſo long introduced, is the reſult of the very groſs and improper idea that has been annexed to phyſic in all ages. I have heard it remarked in praiſe of a phyſician in great vogue "*that he was as ſupple as a valet-de-chambre.*" But, can a phyſician, who thinks nobly of his art, and who knows what he owes to himſelf and to his patients, ever be guilty of ſuch meanneſs? It would ſurely be the way to excite contempt. Phyſic can never make any progreſs, while they who ought to contribute towards its perfection, do nothing for it. This abuſe is particularly common in England, where the moſt celebrated phyſicians ſacrifice their leiſure moments to the fine arts, philoſophy, and the mathematics, rather than in compoſing any works which may contribute to the progreſs of phyſic. Lord Bacon ſays, that the impoſtor frequently triumphs at the bed-ſide of the ſick, when true merit is affronted and diſhonoured; the people having always conſidered a quack or an old woman as the rivals of true phyſicians. Hence it is, that every phyſician, who has not greatneſs of ſoul enough not to forget himſelf, feels no difficulty in ſaying with Solomon, "*if it is with me as with the* "*madman, why ſhould I wiſh to appear wiſer than he* "*is?*" Others, who have more delicacy, purſue another courſe, and aim at acquiring a reputation by following other ſciences; mediocrity in phyſic, being found to lead a man as far in fame as the height of perfection does. Bacon has too well obſerved, that the length of diſeaſes, the ſweets of life, the illuſive flattery of hope, and the recommendations of the patient's friends, are ſufficient reaſons for the vileſt and moſt ignorant quacks being often preferred to the beſt phyſicians. An ignorant fellow always gives more hopes than a man of learning.

Friend, who at a very early time of life acquired the reputation of a great phyſician and a fine writer, adopted the ſame reaſoning and met with the ſame fate. The reader will ſee what is ſaid on this ſubject, by this phyſician (who was ſo deſpiſed by empirics and the vulgar, and ſo much cheriſhed by all reſpectable people) in his letter to his friend Mead. The eſteem, ſays he, in which ignorance is held, is the reaſon why men of true genius, who might have diſtinguiſhed themſelves in phyſic, have ſought for reputation, by attaching themſelves to other ſciences; and in theſe they have often excelled thoſe who ſeemed to be particularly deſtined by nature to this cultivation. In good truth, they who look up only at glory and reputation, have ſurely good reaſon for abandoning an art, in which the prejudices of the vulgar give as much to mediocrity as to the rareſt and moſt accompliſhed merit, and the practice of which is diſtinguiſhed by the public, only in proportion to the temerity of the practitioner.

The quack has a conſiderable advantage over the regular practitioner.—If any one of his promiſes becomes realized, he is applauded to the ſkies; and if the patient finds himſelf deceived, he is obliged in honour to be ſilent, that he may not expoſe himſelf to blame, for having confided himſelf to a wretch, who has the more right to deceive, as the number of ſimple people is always the greateſt. Beſides, this daring man riſks no loſs of reputation; becauſe, as it exiſts only amongſt ignorant people, the blame will always incline towards thoſe who have liſtened to him. Men are ſo fond of the marvellous that the quack has, above all others, the power of making the vulgar reliſh novelty. The more abſurd his promiſes are, the more he is attended to. He applies a barbarous name to a plant he has juſt gathered at the entrance of the village, and then giving the detail of his miracles, this plant is adopted for the cure of every infirmity.

Galen has given us the portrait of every quack in that which he has drawn of Theſſalus, who lived in the reign of Nero. His father, ſays he, was a workman, who tried in vain, to give him ſome idea of what was great and beautiful. Without the leaſt tincture of letters or philoſophy, Theſſalus took it into his head to commence phyſician; and, according to his own groſs way of thinking, he really was ſo. Soon, however, he perceived that he was deficient in many points of knowledge, and in the qualities which are capable of leading on a man with credit in his profeſſion. He ſtill preſerved the tone, the manners, and the language, of the man of trade; and it was, by no means difficult, to diſtinguiſh in him the carder of wool. He began therefore, to win upon his patients, not by preſcribing them remedies properly adapted to the circumſtances of their caſe, but by flattering their hopes, and ſacrificing to their vanity. Notwithſtanding the natural ſeverity of his temper, he knew how to mould himſelf, occaſionally, to the will of his patients, when he ſaw that his low complaiſance would turn to good account. But with all his ſuppleneſs, to thoſe whoſe favour he had gained, or wiſhed to gain, he ſhewed the greateſt impudence and temerity towards all regular practitioners; and he had no ſooner ſucceeded at Rome, by this meanneſs, than he exclaimed, without reſerve, againſt all phyſicians; and even went ſo far as to aſſert, that he himſelf was the only one who deſerved that title. He was not leſs injurious to the dead than to the living; and even took pleaſure in reviling the memory of Hippocrates.

The ignorant and irregular, even of theſe times, agree with this picture of Theſſalus. But is it not ſtrange, that the ſtate ſhould ſuffer this deſtructive breed; and ſurely the people, blind and ignorant as they are, ought not to be abandoned to the prey of theſe impudent and dangerous men. If ſociety claims a right to oppoſe the deſigns of any individual, who wiſhes to render himſelf unhappy, why ſhould not ſhe preſerve the ſame privilege, when the ſafety of a greater number of her members becomes concerned? If ſociety has ſuch a right, ſhe is ſurely blameable for not exerciſing it. The ſovereign will always be diſpoſed to incline a favourable ear to repreſentations which may be made to him on this ſubject. The colleges of phyſic ought, therefore, to unite in the reformation of theſe abuſes.

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CHAP. II.

Of true Experience.

I WILL now oppoſe *true* to *falſe Experience*, or in other words, reaſon to extravagance. The term *Experience* has different ſignifications. Mathematicians, natural philoſophers, phyſicians, and moral philoſophers, call Experience *(experimentum)* the reſult of the enquiries they make towards aſcertaining the effects they obſerve in the phyſical or moral world, and towards diſcovering their cauſes, or at leaſt, the manner in which they act. An experiment differs from a ſimple obſervation, in as much as the knowledge that an obſervation affords us, ſeems to preſent itſelf ſpontaneouſly to us; whereas, the knowledge we derive from Experience, is the reſult of ſome attempt we have made with a view to ſee whether a thing is, or is not.

A phyſician, therefore, who carefully conſiders the whole of the phenomena of a diſeaſe, may be ſaid to make obſervations; and he who in the courſe of it exhibits any remedy, and notes its effects, may be ſaid to make an experiment. The former of theſe may be conſidered as ſimply liſtening to nature; while the latter interrogates her.

Experience proved, that dropſical people ſell into ſyncope, if too much water was drawn off, at one operation. Cælius Aurelianus, therefore, invented the uſe of a bandage, in theſe caſes. Littre has renewed this method, and it has been adopted by Mead.(*f*) We obſerve, that ſcorbutic patients are liable to a total privation of ſtrength, if they remain

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Neither external nor internal ſtimuli ſeemed to have much ſenſible effect on him. Whipping with nettles hardly excited any ſenſe of pain: and twenty grains of emetic tartar, produced only one fit of vomiting. Neither bliſters; nor plunging him in cold water; nor a ſtream of cold water; nor plates of ice applied to his head, were able to occaſion more than a momentary uneaſineſs. In this ſtate he continued two years, and it was then determined to inoculate the itch. For this purpoſe, deep inciſions were made in the arms and legs, and the wounds were filled with itchy matter. He did not ſeem to mind the operation; but, on the ſecond day the pulſe was ſtronger, and on the fourth, was ſo much increaſed, that Dr. Mutzel doubted, whether he had ever felt a quicker pulſe. This degree of fever continued during the fifth and ſixth days, accompanied by great anxiety and difficult reſpiration. On the two following days, the fever abated, the ſkin became moiſt, and a number of ſmall red puſtules were thrown out upon the ſurface. On the ninth his ſpeech and reaſon returned to him. He did not ſeem to know any thing of what had paſſed during the time of his being in the hoſpital. In three weeks the puſtules were dried away, and he was in perfect health. The inoculation of the itch is, however, no new operation. Zacutus, Luſitanus, and Etmuller, long ago recommended the wearing an infected ſhirt, to bring back the eruption of the itch, in caſes, where its ſudden diſappearance had done harm; and we ſee ſeveral inſtances of the good effects of ſuch a method, related by writers of the beſt credit.

(*f*) None of our Engliſh ſurgeons, I believe, now think of performing the operation of the paracenteſis, without making a ſuitable compreſſion on the abdomen, but they almoſt all of long in a chair, when their diſorder is in a conſiderable degree: and this proſtration would prove fatal, if they were not ſpeedily to be relieved, by being placed in an horizontal poſture. Reynolds, an Engliſh ſurgeon, very properly concluded, from obſervations ſimilar to this, that ſcorbutic and other enfeebled patients, might be relieved by tight bandages, ſo that every poſition of the body might become ſupportable, inſtead of its being dangerous.

In caſes of aſcites, the ancients rubbed the patient with oil. Dr. Oliver, of Bath, has lately renewed this method, and recovered by it a number of patients, who were given over. Dr. Tiſſot approves of this practice, and thinks it will ſometimes be of uſe; but he apprehends, it will be more advantageous in incontinence of urine or diabetes, becauſe the pores abſorb too much humidity from the air. He is of opinion, likewiſe, that cantharides applied externally, would do no harm in diabetes; becauſe they increaſe the inſenſible perſpiration, diminiſh the abſorption of the pores, and add to the acrimony of the urine. Now, it is well known, that in diabetes, the urine is without acrimony, and flows with great eaſe. There can be no doubt, but, on many occaſions, diabetes is occaſioned by ſome diſorder in the functions of the ſkin and the action of cantharides will be likely to remedy this inconvenience.

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them place the patient in a chair, during the operation; and even Mr. Sharpe recommends ſuch a poſition. An horizontal poſture, however, will be found to be much more ſafe and advantageous.

empirical, and very indifferent ones of the dogmatical ſect.

Although even the moſt deſpicable empirics have been at all times in no little number, in every nation; yet, it cannot be denied, that from the firſt ages of phyſic, till the time when philoſophy began to be combined with medicine, the moſt rational and honeſt phyſicians were only very moderate empirics. But phyſicians were then not diſtinguiſhed by that name, and, far from forming any particular ſect, they all followed the ſame ſteps. As ſoon as they had acquired more knowledge, every one inſenſibly took a different route. The greater number gave themſelves up to uſeleſs reſearches, and employed themſelves wholly with frivolous ſubtilities, reſulting from the defective philoſophy of the times.

The different opinions which then began to be conceived, and the ſucceſs which was found to attend ſome particular remedies, gradually gave riſe to a ſect, which propoſed to itſelf to abandon all ſubtilities, and to apply wholly to Experience. This ſect dates from the time of Herophilus: that phyſician conſidered, and very properly too, the art of reaſoning as of leſs conſequence than the means of cure.

But ſoon, phyſicians began to be miſled in their way of philoſophizing on the cauſes of diſeaſes. They rejected the moſt important remedies, the efficacy of ſome of which, had been confirmed by Experience. They were no longer willing either to purge, or to let blood, becauſe theſe means of cure did not chime in with their ſyſtematic ideas; hence it was that Herophilus concluded, that the more knowledge men fancied themſelves to have, the more they deviated from Experience. Philinus of Cos, his diſciple, went farther than his maſter had done, and inſiſted that the anatomical knowledge Herophilus had communicated to him, did not add to his reſources in the treatment of diſeaſes, and that it was, conſequently, to no purpoſe to attempt to ſeek for the cauſes of diſeaſes, as anatomy itſelf furniſhed no lights on this head. He contended, therefore, that no phyſician ought to reaſon or ſpeculate, but confine himſelf wholly to obſervation. Serapion, of Alexandria, reduced theſe ideas into a ſyſtem, and became, according to Celſus, the chief of a ſect, the followers of which, aſſumed the name of *empiric,* from the word εμπειρια, which ſignifies *Experience.*

Theſe phyſicians underſtood, therefore, by Experience, whatever was known either as the reſult of chance or of experiments; and they meant by imitation, the repetition of what had been done in ſuch and ſuch circumſtances, after having noticed the effects. A phyſician, according to their notions, poſſeſſed true Experience, when, by means of frequent imitation, he was enabled to eſtabliſh certain propoſitions, from which might be deduced, what happens on every occaſion, or commonly, or rarely, or in any particular way. They adviſed, for the acquirement of this knowledge, to begin by making attentive obſervations, and then reading carefully, what might have been written by others, concerning the hiſtory and cure of diſeaſes. They hoped, that by theſe means, they might be enabled to diſcover the reſemblance between different diſeaſes, and thus to form a judgment in any new caſe, of what ought to be done, by recollecting what had been practiſed in ſome known diſeaſe: This they called reaſoning from analogy. It is evident, therefore, that the Experience of the empirics was founded on the teſtimony of the ſenſes; or the remembrance of what had been obſerved by others; and on a compariſon of the known with the unknown. So great was the difference between the reaſonable empirics of ancient days, and thoſe of modern times.

Serapion and his ſucceſſors, were of opinion, that it was abſurd to attempt to inveſtigate the latent cauſes of diſeaſes. They contented themſelves with noticing thoſe which were evident to the ſenſes. They had ſome reaſon for this. It was certainly reſerved for anatomy to diſcover thoſe ſecret cauſes; and anatomy, when Serapion lived, was in its infancy. They who attempted to ſeek for thoſe cauſes, had only the feeble light of the philoſophy of the times to conduct them, and in the midſt of ſuch obſcurity, they neceſſarily wandered from one error to another. We muſt allow, therefore, that the founders of the empirical ſect conceived a deſign which was laudable in itſelf. They meant to deliver the art of medicine from hypotheſis and chicanery; and they were unwilling to inquire after the proximate cauſes of diſeaſes. Indeed, it would have been morally impoſſible for them to have aſcertained them, and as they would have been led by their reſearches to the ſubſtitution of chimæra for truth, they would conſtantly have been induced to form falſe indications of cure. The external or remote cauſes ſeemed to merit their attention; but at the ſame time, they were, by no means anxious to aſcertain the manner in which thoſe cauſes acted. If they attended to them, it was not with any deſign of deducing from them any curative indications; becauſe ſuch indications were, in their opinion, too arbitrary. They, therefore, viewed the remote cauſes in the way they did the other circumſtances of the diſeaſe, and conſidered them as a part of the ſigns which ſerved to determine its nature.

They confined themſelves wholly to what came, as it were, under the examination of the ſenſes, and, of courſe, they conceived that the memory and the ſenſes included all that was eſſential to the practice of phyſic. If they admitted any reaſonings, they required them to be ſo ſimple, that it was not poſſible to ſuffer one-ſelf to be miſled; and ſo natural, that they ſhould preſent themſelves, as it were ſpontaneouſly. They therefore proſcribed only ſuch reaſonings as were founded on falſe or uncertain principles; they rejected neither the examination of the ſymptoms, nor the phenomena of diſeaſes, nor analogy, nor erudition. Neither Philinus nor Serapion are to be blamed, becauſe their followers or ſucceſſors deviated from their manner of thinking and condemned erudition, anatomy, phyſiology and philoſophy, which may be conſidered as the ſoul of medicine. The founders of the empirical ſect ſought after *true Experience*, whereas their ſtupid ſucceſſors are ſatisfied with the *falſe*.

If the founders of this ſect were far from meriting contempt, the dogmatiſts, their opponents, were, on the other hand, by no means, univerſally eſtimable. The name of dogmatiſts was applied to thoſe phyſicians,

cians, who ſounded the practice of their art, on certain principles. They were not ſatisfied with aſcertaining a diſeaſe, by collecting together the ſymptoms which determined its ſpecies, they were deſirous of going farther, by diſcovering the cauſes of thoſe ſymptoms. All the methods made uſe of by the empirics, to diſtinguiſh and cure diſeaſes, were not diſagreeable to the dogmatiſts; but the latter thought it neceſſary to deduce the indications, which to them ſeemed to be the baſis of every curative intention. The empirics rejected, as we have obſerved, the indications, as being neceſſarily founded on the knowledge of the cauſes which theſe phyſicians conſidered as uſeleſs, or as the ſource of error; the greater part of thoſe cauſes being ſuppoſed by them to be ſo many impenetrable myſteries.

The dogmatiſts derived their indications from the nature of the diſeaſe, from its cauſes and the different combinations of thoſe cauſes, without recollecting what they had ſeen in a ſimilar caſe. Galen ſomewhere ſays, that the indications are the baſis of true practice, and that he only who diſcovers the methods which theſe indications point out, deſerves the name of phyſician: So that, according to Galen, he who does this by Experience only, is an empiric; and he who aims at acquiring it by reaſoning, is a dogmatiſt.

Writers are by no means unanimous, with reſpect to the founder of this laſt ſect. The dogmatiſts themſelves, look up to Hippocrates as their chief; becauſe, in many of his works, he appears to take no little pains to cenſure, and with much judgment too, thoſe who conſidered practice as conſiſting wholly in a blind habit or repetition. He himſelf practiſed on conſtant and eſtabliſhed principles, and joined to his own Experience, the reaſoning of the philoſophers who had preceded him. We know, however, that Hippocrates confined himſelf chiefly to obſervation, becauſe all the principles, neceſſary to the art of reaſoning were then not yet known, and, of courſe, it was neceſſary for him to abſtain from them on many occaſions. It would ſeem, therefore, as if Galen, rather than Hippocrates, ought to be conſidered as the founder of the dogmatical ſect. Galen, was in phyſic, what Deſcartes has ſince been in philoſophy. Both the one and the other have ſo well argued on falſe data, that it is only by following their methods, that we can be enabled to refute them. The empirics had remarked long before Galen's time, that philoſophical phyſicians were led into error, by eſtabliſhing their reaſoning in diſeaſes on arbitrary propoſitions; and that their definitions were, by no means, taken from nature; they therefore contended, that they did right to confine themſelves to Experience alone. Men of the beſt parts, have indeed, ſince Galen's time ſided with the dogmatiſts; but it is well known, that they were to be conſidered rather, as a number of perſons who ſelected what was beſt from every method and opinion, than as forming any particular ſect. They were indiſputably, by much the wiſeſt. The Galeniſts, properly ſo called, were truly the antagoniſts of the empirics. It muſt be confeſſed, however, that the empirics were to be conſidered as true phyſicians, when they began to form themſelves into a ſect; while the dogmatiſts were only erroneous ones, ſo long as they continued to deduce their principles from chimerical ideas.

But it inſenſibly happened, that the empirics deſcended to the level of the vulgar; while, the dogmatiſts, on the contrary, had courage enough to ſurmount the many obſtacles that ſeemed to multiply before them; and at length came back into the route that Hippocrates had followed. In later ages, the chymiſts gave riſe to a new kind of empirics. They neglected all erudition, and even the hiſtory and the ſigns of diſeaſes. They ſought at once in their laboratories, both for the cauſes of diſeaſes, and the method of curing them. The quacks of our days, are the apes of thoſe chymiſts. Serapion, and his followers, aimed at knowing diſeaſes as well as remedies; modern empirics confine themſelves wholly to the knowledge of medicines, and make light of that of diſeaſes. The former were true phyſicians, while the latter are, at the moſt, ignorant apothecaries.

Folly cannot be more oppoſed to right reaſon, than the modern empiric differs from the true phyſician. The latter, reſpects and cultivates the erudition which the former deſpiſes; becauſe it is not poſſible for one man to ſee ſo much as all the ages have done before him. This erudition, which may be conſidered as the great light of phyſic, is the leſs intereſting in the eye of the empiric; becauſe the number and the nature of diſeaſes, are already determined, according to him, at leaſt, by their evident or occult qualities of the medicine he diſtributes. So that it is of little conſequence to him, to know that ſuch an obſervation was made at ſuch a time; or that a ſimilar diſeaſe, treated in ſuch a manner, terminated in ſuch a way. In his opinion, a diſeaſe can terminate or be cured, only in the way that ſhall be determined by the effect of his remedies. All reaſoning, therefore, he judges to be uſeleſs. It is ſufficient, that a medicine poſſeſſes a certain virtue; and it would be to no purpoſe to aim at imitating nature in the ſolution of the diſeaſe; every thing depends on the remedy, and not on the prudence of the phyſician, or on the operations of nature. Such is the logic of theſe pretended Æſculapii, who have had, ſecretly, in all ages, too many imitators amongſt phyſicians, at leaſt on many occaſions. Strabo has ſaid, that it is impoſſible to be a great poet, without being a man of real probity. This ſurely, ought, to be applied to phyſicians. No honeſt practitioner can look, without horror, on the manœuvres of theſe deteſtable empirics. Can any phyſician, in good conſcience, venture to preſcribe a medicine, without, at leaſt, having formed inductions from the moſt exact analogy? Is not that man an enemy to his patient and to ſociety, who pretends to cure, without knowing to a certain degree, the nature of the diſeaſe, both from its cauſes and ſymptoms, and its antecedent and preſent ſtate? Is it not to be wanting in every thing we owe to humanity, and even to religion, to approach the bed-ſide of the ſick, without having previouſly acquired the neceſſary knowledge? Can any man ſay to himſelf, '*I have done all I could do*,' if he is unable at the ſame time, to ſay, '*I know all* '*that I ought to know*?' I admire a phyſician, who has a proper ſenſe of religion; becauſe this, when it is pure, and free from prejudice and fanatiſm, agrees well with the principles of honour and probity. Neither Hippocrates nor Sydenham were irreligious men.

As empirics require no Experience to know what they have to do, they are always able to give an account of their conduct to themſelves, when they know how to meaſure their probity by their intereſt. They therefore think they have done their duty, when they have impoſed on the fooliſh and the ignorant who authoriſe them in their impoſitions; and in this does all their Experience conſiſt.

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BOOK II.

Of Erudition, and its Influence on Experience.

CHAP. I.

Of Erudition in general.

WE underſtand in general by Erudition, the whole of the ſeveral parts of human knowledge, which have deſerved to be delivered down to us in books, and treated each in a ſuitable manner. I ſay in a ſuitable manner, becauſe "each branch of "the ſciences, as Ariſtotle has well obſerved, requires "more or leſs exactitude only in proportion to the "object of him who treats it. A workman and a "geometrician conſider a right angle under very dif- "ferent points of view. The one, only as being uſeful "in his work; whereas the other, attentive to the "truths he wiſhes to diſcover or demonſtrate, exa- "mines its nature and properties. Erudition does "not ſuppoſe that a man ſhould enter into an in- "veſtigation of all the cauſes. It is ſufficient, on "many occaſions, to ſay, that a thing is, without "giving

" without giving reaſons for its reality; this may be " particularly applied to ſome of the principles of " knowledge." A man of erudition, is, therefore, one who knows all that has been diſcovered before his own time, and in ſuch a manner as it deſerves to be known; or as Cicero ſays, *Qui omnium rerum atque artium, rationem naturamque comprehenderit.* The erudition of a phyſician, is, therefore, only a particular erudition. It is the knowledge of all that other phyſicians have obſerved and experienced, touching the art of preſerving the human body from the diſeaſes to which it is expoſed, and the knowing how to diſtinguiſh theſe diſeaſes, or at leaſt how to render them more ſupportable. But the human body being neceſſarily connected with all the parts of nature, it will be eaſily conceived, that medical erudition is required to be much more extenſive, than it would at firſt ſight ſeem to be.

True erudition, which alone, merits the name of ſcience, rather depends on a certain aptitude of the mind, than on the memory; a very moderate memory being found to be ſufficient for attaining it, when a man unites genius to great application. In ſuppoſing capacity and inclination, we acquire this erudition as well by reading, as by frequenting the converſation of the learned, when we are free from prejudices, and attached wholly to truth. The ideas of others, their learning, their experience, their manner of viewing objects; in ſhort, all that belongs to them, combines itſelf gradually with that which is truly our own; and after a certain time, if we are ſuſceptible of reflections, it ſeems to us, that all thoſe ideas originated, as it were, within ourſelves. But in order to acquire ſuch an advantage, it muſt neceſſarily be ſuppoſed, that our own proper foundation required only cultivation; for without this, it is impoſſible for us to appropriate to ourſelves the riches of others. It is eaſy to diſtinguiſh thoſe who have this quality. We every day ſee people who have nothing but what is artificial, both in their converſation and way of thinking; and it is only in quoting others, that they imagine they ſpeak properly. A ſufficient proof, this, that they have never analyſed the leaſt ſentiment or the leaſt idea. Theſe people, who are ſo conſtantly quoting others, have only a falſe erudition. True erudition, is an acquiſition we ought ſtrictly to make our own. We ſhould evince it rather by the refinement of our genius, than by the number of our quotations. How much would the merit of the learned be ſeen to diminiſh, if their works were ſubmitted to this teſt.

True erudition is peculiar to the philoſopher; and experience always ſuppoſes it. Before a man can obſerve each individual thing in nature, he muſt be acquainted with its particular character; and this not only from the hiſtory of nature herſelf, but from obſervation, and the examination of the phenomena ſhe affords.

A man of the moſt refined genius, would be able to learn, only after a great length of time, how to diſtinguiſh diſeaſes, if the writings of others did not trace out to him the firſt lines of this knowledge. It will, therefore, be found to be not a little advantageous to him, if erudition, on many occaſions, ſtands him in the ſtead of Experience.

Genius ſometimes does harm, when not accompanied by erudition, becauſe the mind, when left to itſelf, will not always be properly employed, and will be too apt to fix itſelf by chance, on the immenſity of objects which preſent themſelves on every ſide, if it is not determined to the proper ones. Some certainties muſt neceſſarily be known, before we can direct our inquiries to unknown things. It is from the experience of others, that we are to receive inſtruction. We are to be directed by their thoughts, and borne, as it were, on their wings, before we can be inventors ourſelves. It is very unuſual for a man of genius, to find a ſcience wholly within himſelf. I could eaſily prove, that almoſt all the great diſcoveries that have been made, and eſpecially in natural philoſophy, in theſe latter times, are far from being due to thoſe who have been conſidered as the inventors; or at leaſt, that they have been led to them, by ſome marks which others had pointed out before them, or by the natural conſequence of what had been conjectured, or calculated, or experienced, before the times of theſe pretended inventors.

CHAP. II.

Of the Prejudices againſt Erudition.

FILLED with the blindeſt arrogance, or influenced by the meaneſt views, many modern practitioners, or thoſe whom I call *empirics*, reject with reaſon, that which would be able to unmaſk them. They affect to deſpiſe erudition, becauſe they are deficient in it. They require only the language of the vulgar, and are therefore contented with its knowledge. They decry the erudition, and diſcoveries of all ages, that they may be the better able to perſuade the ignorant public, who liſten to them, that all that is good and uſeful, originates from themſelves. The public, honour in them, their own prejudices, and theſe vile ſouls attribute to themſelves the public reſpect: as the aſs in the fable did the homage paid to the ſtatue of Iſis, which he carried upon his back.

Cicero very properly ſaid, that it was the duty of a phyſician to attempt to cure by a method founded on reflection, *curare appoſitè ad ſanandum*: whereas, in the opinion of theſe empirics, it is to give for an unknown diſeaſe, a remedy, of which nobody is to have any other knowledge than what is to be collected from the praiſes of its author, and the falſe teſtimony of impoſtors. This is the only erudition, of which theſe people are jealous, becauſe it is a ſufficient plea for their crying down the merit of true phyſicians.

No book is pleaſing to theſe people, if we except, perhaps, thoſe which have been written by authors, who have aimed at ſheltering their ignorance under a veil of hard and unmeaning words, and in which no man fancies he ſees common ſenſe, but thoſe who are themſelves ſenſeleſs. They poſſeſs, if they are to be credited, the talent of penetrating the ænigmas of theſe idle dreamers, whilſt the luminous brevity of the true oracles of phyſic, appears to them as the work of obſcurity and ignorance. It is indeed true, that theſe empirics have too little genius to perceive the truth of any principles, or the reaſon and uniformity of any deductions from them. It is, therefore, by no means to be wondered at, that they ſhould oppoſe themſelves againſt the Experience of all ages; and even turn into ridicule, all the laws of reaſon and analogy.

Incapable of generalizing on any ſubject, their inquiries will, at the moſt, be ſome particular details, which they will ſeek for in books. Every diſeaſe will be to them a particular one, which will require a different remedy. They will never learn to reliſh a writer, who, fully inſtructed in his art, ſhall have collected under the ſame head, diſeaſes, which differ from each other, only by a few ſymptoms ariſing from accidental, and particular circumſtances. Every author, therefore, who does not tell them all they are ignorant of, will appear to them unworthy of being read. It is ſo true, that men of true genius

nius are alone capable of diſtinguiſhing a diſeaſe, that is characterized only by two or three ſigns. To underſtand and reliſh Hippocrates, a man muſt poſſeſs much of his diſcernment.

A young ſurgeon of great merit, attempted the other day, to quiet the prejudices of one of theſe old practitioners, by ſome reflections drawn from the excellent Memoirs of the Academy of Surgery, at Paris. ‘*Oh fye,* cried the old man, (ſhrugging up his ſhoulders at the ſame time) *what a book you quote.*’ Another, perceiving, at the houſe of a patient, Mead's *Medical Precepts,* a work, which was the reſult of more than fifty year's practice, cried out, ‘*What book have you got there? good receipts are ſurely better than all that nonſenſe.*’ It is ſingular, however, that theſe people, who are ſo ready to exclaim againſt erudition, are always the firſt to make uſe of Greek and Latin, and other hard words, which they never underſtood. Practitioners of this ſtamp, are not only averſe to reading themſelves but conſider reading as the teſt of ignorance in others. The reader will not be ſurprized at this, when I ſhall have pointed out the true cauſe of this abſurd opinion. The ſucceſſors of the ancient empirics fancy, that the difference of climate, requires a ſyſtem of medical practice, in every reſpect different. It will be perceived, that ſuch a ridiculous opinion will neceſſarily reject all erudition as uſeleſs, together with all the knowledge we may derive from the obſervations and experience of others; and conſequently, that a phyſician ought to create, as it were, a new ſyſtem of practice, every time he changes his ſituation. I remember, when I came back into Switzerland, that I could not poſſibly be ſuppoſed capable of practiſing there, after having ſpent ſometime in France and England, to improve myſelf in my profeſſion; and they concluded from my Engliſh perriwig, that I muſt neceſſarily deſtroy my patients, as I ſhould preſcribe to them only Engliſh remedies.

It will eaſily be conceived how uſeful theſe prejudices are to the practitioners, who are ready to ſeize every opportunity of vilifying their brethren, whether young or old. Lentilius, who had been educated in theſe narrow notions, uſed to complain, that phyſicians too often treated their patients after rules which they ſtudied in very different climates. It is almoſt incredible, ſays he, how baneful this error is. It would be neceſſary, therefore, according to Lentilius, for young phyſicians to come back and ſtudy in ſome univerſity in their own country, before they attempt to practice.—What reaſoning!

Lentilius imagines he is giving a very prudent and wholſome advice, when he recommends it to the inhabitants of Suabia to read the phyſicians of lower Saxony with great caution, and more eſpecially thoſe of Holland. *(a)*

(a) Roſinus Lentilius was a phyſician at Stutgard, at the cloſe of the laſt, or beginning, of the preſent century. He publiſhed ſeveral works, and was exceedingly averſe to venæſection, which he contended, ſhould be practiſed only in the northern parts of Germany, and on healthy ſubjects. His writings are ſtill much read and attended to by ſome German phyſicians. This is probably the reaſon why Dr. Z. mentions him ſo particularly; indeed there will be found more than one Lentilius in every country.

I met, in conſultation, with a phyſician of this ſtamp, not long ago. I pointed out the diſeaſe in the cleareſt manner; and happening to have in my pocket, Van Swieten's Treatiſe on Diſeaſes of the Army, in which the caſe was very accurately deſcribed; a very experienced phyſician, who was of the conſultation, handed it to this Lentilius, to convince him I was in the right. The old man anſwered, with no little vivacity, and without opening the book, "*I have no opinion of theſe foreign ſpecifics; they may* "*be very good in their own country, but they are very* "*uſeleſs in ours.*"

It has been pretended too, as another reaſon, why obſervations made in one country, can afford no uſeful application in another; that diſeaſes vary according to climate; and that they are, often, of a very different nature, in two neighbouring provinces, or even cities. It is therefore contended, that the methods of cure muſt be totally different. Galen, ſay they, defended venæſection, in too hot a country; and Meſuè goes farther, and declares it to be as dangerous in very cold, as in very hot, climates. Barker *(b)* pretended to have learned, from Experience, that blood-letting was abſolutely impracticable, in ſome parts of America; whilſt in Brazil, a malignant fever cannot be cured, but by taking away two hundred ounces of

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(b) The perſon here alluded to by Dr. Z. is the author of "An Eſſay on the Agreement between Ancient and Modern "Phyſicians; or a Compariſon between the Practice of Hippo"crates, Sydenham, and Boerhaave." London, 1747, 8vo.

blood, by repeated bleedings. Lentilius ſays, he has often employed cordial medicines in the North; but that he found the ſame remedies hurtful in Suabia, which is in a warmer climate. Acids, he ſays, are leſs hurtful in Suabia, than on the coaſts of the Baltic. The inhabitants of Guayaquil, are unwilling to uſe quinquina; becauſe they fancy the climate of Peru to be too hot for this febrifuge bark.

The Suabian practitioner (Lentilius) might, indeed, have had occaſion to obſerve, that heating medicines, are uſeful in the North, ſince there are certain caſes, in which they will be advantageouſly uſed, even in warm climates. He might have remarked, at the ſame time, that the ſame remedies, are pernicious to the greater number of patients in Suabia; becauſe they do harm in almoſt all acute diſeaſes. With reſpect to what he ſays of acids, in Suabia, or on the coaſts of the Baltic, we may be permitted, now-a-days, to reject his obſervations.—The ridiculous theory of his times, has been long exploded.

But are diſeaſes never influenced by climate? will it be always indifferent, whether or not, we employ the ſame methods of cure, in every country? does not the general temperament of men, vary in every climate? moſt certainly; and I therefore allow, that diſeaſes, and the methods of treating them, will, in certain caſes, be different in different countries.— I will even ſay, that ſuch a difference is neceſſary.

We know, that every diſeaſe is not the ſame, at all times; and that the ſame diſeaſe is under certain circumſtances, and in certain climates, attended with very different ſymptoms, from what it is in others. The Lues Venerea, is no longer what it was in the times of Berengarius; nor is it attended with the ſame virulence, or the ſame ſymptoms, in every climate. It is much more dangerous in cold, than in hot climates. A Spaniard goes to, and comes from, Peru, with a degree of Lues, which would inevitably deſtroy a Dane, in ſpite of every remedy. *(c)* The Yaws, which the negroes brought with them, from Guinea, to America, and which have been conſidered as the origin of the Lues, are at Barbadoes, only blotches which riſe upon the ſkin, and dry away, by the uſe of certain plants. In ſome of the other Caribbee iſlands, the ſkin becomes as ſmooth and ſhining as a looking-glaſs, without the leaſt ſwelling, or elevation; whereas, they who go naked, have commonly the ſkin altogether wrinkled. This kind of Venereal Diſeaſe, becomes mortal, if treated with Mercury. Huxham increaſed the complaints of an Engliſhman, who brought this diſeaſe from Porto-Bello, after having been connected with an infected negreſs. The Guaiacum-wood, ſeemed to produce a better effect; but at length the patient died conſumptive.

It muſt be allowed, too, that the different mode of life, of different nations, will require a variation in

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(c) Dr. Z. probably means, that the native of a northern climate, who receives the infection in a hot country, falls a victim to it much ſooner than the inhabitants of that country would do. The virus itſelf, is certainly much more active in the ſouthern parts of Europe, than it is in Britain.

the doſes of medicines. Boerhaave preſcribed emetics, in Holland, which would have been too powerful for perſons, whoſe ſtomachs were not loaded with cheeſe, butter, and putrid fiſh. The people at Rome, eat leſs than at Paris, and therefore, they require vomits that are leſs active. Although this difference of living, claims our attention, we are by no means, to overlook the variety of temperament, and conſtitution. The difference of ſeaſon, will likewiſe claim a peculiar attention.

Yet, notwithſtanding all theſe circumſtances, and a variety of others, which the phyſician ought not to neglect, it is certain that there is ſomething conſtant and uniform, in the character of the generality of diſeaſes; and that the advantages of a good method, are every where the ſame. Acute diſeaſes, which conſtitute two thirds of thoſe, to which we are ſubject, have, in almoſt all the countries of Europe, the ſame ſymptoms, and the ſame event, as they had with Hippocrates. This father of medicine, does indeed, himſelf tell us, that his obſervations were found to agree, in very oppoſite climates. We obſerve, in his writings, many diſeaſes, the names of which have not been changed, becauſe they ſtill afford the ſame ſigns he deſcribed. The pleuriſy, phthiſispulmonalis, epilepſy, &c. are proofs of this. Indeed, ſemeiology, is that part of phyſic, which has undergone the leaſt change. The fevers he deſcribes to us, in his Epidemics, have appeared, and will continue to appear, in all ages. This is ſufficiently proved, by the writings of Sydenham, and others. The pleuriſy, and peripneumony, terminate, according to Hippocrates, by a copious expectoration, or by a critical ſediment in the urine; very acute ſevers, and phrenitis, by hemorrhage at the noſe; intermitting ſevers, by copious and fœtid ſweats; continued ſevers, and ſuch as are occaſioned by any impurities of the primæ viæ, by purging, vomiting, *&c.*

It is true, that the critical days, are found to be more conformable, in the eaſtern parts of the world, to the obſervations of the ancients, than they are with us. But our obſervations are found to reſemble them, the more we adopt their methods of treatment *(d)*; and, if the critical days of the ancients, are not always confirmed in our climates, the cauſe of the difference, is to be aſcribed to the precipitation, with which phyſicians uſually act; for, whoſoever will read the Epidemics of Hippocrates, and will patiently compare the diſeaſes he deſcribes, will be convinced, that nature follows very uniform laws, in the ſolution of diſeaſes; and even of chronic ones. Ignorant people only, and they who have neither read, nor made obſervations, can doubt the truth of this aſſertion. It is not here the place to diſcuſs this matter more fully; but, in a few words, we may venture to remark, that, if the greater number of modern phyſicians, were not too fully perſuaded, that it is their duty to do all, we ſhould much oftener be led to confeſs, by the ſteps that nature herſelf would purſue,

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(d) Many of the moſt celebrated modern phyſicians, have declared themſelves in favour of critical days.—Of thoſe of this country, who are of this opinion, it is ſufficient to name the learned Dr. Cullen.

that ſhe deviates from her laws only, when ſhe has been conſtrained ſo to do, either by being diſturbed in her functions, or for want of being properly aſſiſted.

If the diſeaſes, obſerved by Sydenham, are the ſame as thoſe were deſcribed by Hippocrates, I can likewiſe venture to affirm, that the ſame diſeaſes appear every day in our country.—They afford, in Switzerland, the ſame ſymptoms as in England. If we except ſome few endemial diſeaſes, there is not one, which is ſo peculiar to any climate, as not to be obſerved in another very remote one. We obſerve, that putrid, and malignant fevers, are the moſt frequent complaints in ſouthern countries, and inflammatory fevers, in northern ones. This, in general, is true; and yet, the ſouthern countries, are by no means, ſo unhealthy, or the northern ones ſo healthy, as has been thought. The air of Caſtile, is ſaid to be ſo very healthy, that fevers of every ſort, are very uncommon there, and eſpecially malignant ones; whereas, in Sweden, they every year ſee petechial fevers, ſmall-pox, and meaſles, of the worſt characters. It will be perceived, that this obſervation includes the moſt oppoſite climates.

Not only the acute diſeaſes of Hippocrates, are ſimilar to ours; but his method of treatment, is likewiſe very advantageouſly adopted by us. We ſhall never know how to excel him, in the management of phrenitis, pleuriſy, angina, and, in general, all inflammatory fevers; becauſe, by occaſionally modifying the rules he lays down, there is not one of them, which may not be advantageouſly applied to every time and place.

During the firſt days of peripneumony, he adviſed the keeping the belly open, with a view to check the fever; but to quit this practice, after the fifth day, leſt too copious an evacuation, by ſtool, ſhould prevent the expectoration. In the beginning of pleuriſy, he ordered clyſters to be thrown up; but to leave them off, as ſoon as the patient ſhould begin to expectorate; otherwiſe, ſays he, the ſpitting will be ſtopped, and the patient will die about the ninth day. He likewiſe recommended the drinking plentifully, in ardent fevers, with a view to calm and mitigate the fever. All true phyſicians, ſince Hippocrates, have agreed on the excellence of theſe methods; nor ſhall the prejudices of the vulgar, ever lead me, by adopting any other, to nouriſh the patient, at a time, when nature ought ſimply to be ſupported, ſo as to enable her to conquer the diſeaſe. I am averſe to the uſe of animal food, in almoſt every kind of fever.

The greater part of the means of cure, will be capable of application to diſeaſes of the ſame kind, in every climate. A purgative, in the beginning of a putrid fever, is a very uſeful remedy, in every country; while blood-letting may be very pernicious. The dyſentery, is cured in the ſame manner at Batavia, as it is with us. In caſes of violent hemorrhage, the Bramins, on the coaſt of Malabar, adviſe the uſe of rice, ſimply boiled in water, as the only food; in ſimilar caſes, here, we direct the patients to a milk diet. Bontius ſays, that the cold ſeeds produce the ſame effects in Batavia, as in Holland. The Peruvian bark, notwithſtanding the prejudices of the inhabitants of Guayaquil, cures intermitting fevers, as well in Peru, as it does in Germany, or Holland, or

Italy, or England; it matters not, whether the patients be young, or old; of a hot, or a cold temperament.

It has been proved, that ſince the time of Hippocrates, true phyſicians, have, in all ages, adopted certain fixed principles, in the cure of diſeaſes; and have attained this intereſting end, by the ſame curative means. We know, too, that the medicines, which have been more recently diſcovered, have ſimilar effects, in climates, very different one from the other; provided the circumſtances are the ſame.

All I have ſaid, will, therefore, tend to eſtabliſh this truth; that there is ſomething conſtant and uniform, in the effects of good methods, and good remedies; notwithſtanding the exceptions, which ſome particular circumſtances of climate, place, temperament, *&c.* may induce us to make to the general rules. All this, however, is only a variation, and not an eſſential change, in the nature of things.

We ſhall be able to vomit a Chineſe at Pekin, with as much eaſe, as a Swiſs, at Berne, and with the ſame medicine; although the doſe may be required to be different, by ſome of the circumſtances beforementioned. Baglivi, whoſe writings and learning we eſteem ſo much, ſeems, however, to ſpeak too much like a young man (*e*), when he enters into a detail of

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(*e*) This expreſſion ſeems to fall too haſtily from Dr. Z. after what he has ſaid concerning true Experience. Baglivi's firſt and beſt of the methods of treatment, which may be uſeful or noxious, in the climate of Italy; ſince the ſame rules and exceptions, will be equally applicable to all countries.

A man of penetration, will therefore diſcover, in the diſeaſes of the moſt diſtant nations, thoſe of his countrymen; but he will, at the ſame time, make the proper diſtinctions. The country, or the univerſity, in which he ſhall have ſtudied, will not prevent him from attending to the climate and ſeaſon, and to the temperament of his patient; and likewiſe to the conſideration of all the cauſes, as well internal as external, remote and proximate, which the empirical practitioner will wholly overlook, or ſcornfully neglect. A prudent phyſician, will deſpiſe thoſe people, who draw their rules from chance, or from the prejudices of the vulgar, to whom they aim at ſacrificing all learning, and every ſentiment of honour, with a view of eſtabliſhing themſelves, at the expence of theſe miſerable victims of their ignorance.

Friend, ſaid to Mead, in one of his letters, "Theſe
" pretended practitioners, who fancy they are following nature, even when they are perfectly ignorant
" of her operations, have often excited my anger;

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beſt work, *De fibra Motrice*, &c. was written, when he was only thirty years of age He died in 1706, at the age of thirty-eight. He was phyſician to Clement XI. who appointed him profeſſor of the theory of medicine; and his reputation ſoon became ſo great, that he drew to him ſtudents from all parts of Europe.—He is ſaid to have harangued with peculiar eloquence.

" ſometimes, however, they have cauſed me to ſmile.
" If theſe people follow nature, without having ſtudied her, what are we to think of the great reſtorers of phyſic, amongſt the Greeks and Arabians?
" Do their labours and writings deſerve, then, only
" our contempt? In truth, they who think in this
" manner, and extol their own penetration ſo much,
" have never known either nature, or her operations,
" or indications; nor the means and methods of aſſiſting her, when there is occaſion. Learn, therefore, Mead, to deſpiſe the vain boaſting of theſe arrogant people, and proceed, boldly, in the path of
" honour and reputation. Whatever may be the
" reſources of your refined genius, bluſh not to own
" the abundant harveſt you have gleaned from the
" writings of our maſters."

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CHAP. III.

Of the Advantages of Erudition.

HE who never reads, ſees, in the world, only himſelf. As he has no idea of what has been thought by others, he conſiders all his own reflections, as of the greateſt importance. It is, therefore, by erudition alone, that ſuch a one can enlarge the narrow circle, in which his genius is confined. The too great idea, we entertain of the ſoil on which we tread, diſappears, the moment we conſider the totality of the globe.

A man of learning, carefully examines every opinion; and believes what he has been taught in his childhood, only as he finds it agree with what he experiences, as he grows older. As he is ſenſible of all the advantages of reaſon, he admits only of that which is reaſonable. I do not pretend to confound knowledge, with a vain and conceited erudition. Scepticiſm deſtroys itſelf. Although Sextus *(f)* poſſeſſed

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(f) Sextus was an ancient Greek phyſician, who flouriſhed about the time of Commodus, and was of the empirical ſect. He defended

ſeſſed, as well as Voltaire, the rare talent of bringing almoſt all readers to be pleaſed with him; yet there was required only a little genius, to perceive all the inſufficiency of his principles.

It is reading and reaſoning, which prevent us from finding every thing ridiculous, that ſtrikes our ſenſes; and if the people are ſo affected by a new object, and ſo ſuperſtitious withal, it is becauſe they never have ſeen any thing beyond the ſpot of their exiſtence. In general, Hottentots compoſe the greateſt part of the world. Men are willingly diſpoſed to admire, what they do not underſtand.

Reading, brings us, in our moſt leiſure hours, to the converſation of men of the moſt enlightened genius, and preſents us with all their diſcoveries. We enjoy, in the ſame moment, the company of the learned, and the ignorant; of the wiſe man, and the blockhead; and we are taught how to avoid the foibles of the human mind, without having any ſhare in their bad effects.

If we happen to poſſeſs that delicacy of taſte and ſentiment, that ſenſibility, which we can derive only from the hand of nature, to what perfection will not

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defended the pyrrhonian or ſceptical philoſophy, with great warmth, and wrote three books of pyrrhonian inſtitutions; which, with ten books againſt the mathematics, are all that are now extant of his works. The beſt edition of them, is in Greek and Latin, by Fabricius. Leipſic. 1718, folio.

theſe qualities lead us, by reading; eſpecially if we join to them, the converſation of men of letters. He who unites reading to taſte, ſees his thoughts ariſe with preciſion, and his reflections analyſed with propriety; every word of his compoſitions finds its proper place, and every expreſſion is, from him, the image of perſpicuity:

It is this taſte, this refined way of thinking, that inſures the reputation of good authors; and it has been remarked, that, in the medical world, the greateſt phyſicians have always been the beſt writers. If we may believe Celſus, Hippocrates was not leſs eſtimable for his eloquence, than for his ſkill in phyſic. His writings are remarkable for a brevity of ſtile; but he wrote in the language of a great maſter, and with a clearneſs of expreſſion, which affords nothing obſcure to intelligent readers. The other ancient phyſicians, who acquired a high reputation in their art, were replete with all the learning of their times, and diſtinguiſhed themſelves, by the eloquence of their writing. No Greek phyſician, till the time of Paulus, was inferior to the beſt writer of his time.

Fernelius, amongſt the moderns, together with Sydenham, Friend, and Mead, wrote with as much elegance, as they thought, and cured as well as they wrote. I do not underſtand Houlier, when he reproaches Fernelius with having corrupted his claſſical Latin, with all the inelegance of the Arabians. Signor Cocchi has proved, in his Tuſcan Diſcourſes, how much a man, who is deſirous of inſtruction, ought to be intereſted in the writings of a phyſician, who, free from any party ſpirit, knows how to combine together, true philoſophy, literature, taſte, and elegance of diction; and at the ſame time to give a certain moral tone to his medical works, and to expreſs, on all occaſions, more than he ſeems to ſay.

A man, who is fond of gleaning inſtruction, can never be idle; his very leiſure is employed on ſome leſs ſerious part of improvement. By theſe means it is, that he perfects himſelf in his art. Guided by his erudition, he knows how far he ought to follow the ordinary route, and where it will be right to quit it. He ſees the conſequence and connection of all the things that enter into the knowledge of his profeſſion; and he diſtinguiſhes the errors, from the right reaſoning, of thoſe who have gone before him. The obſervations of his predeceſſors, are his guide; and it is by theſe he is enabled to quit the labyrinth, in which the ignorant man never finds the thread of Ariadne.

Every thing is undertaken with genius and penetration, when one has learned to diſtinguiſh particular caſes, amidſt general principles. Although it is not altogether the caſe with medicine, as with the phyſico-mathematical ſciences; there are, nevertheleſs, certain general data, which are unanimouſly acknowledged, and which the phyſician may uſe with certainty, if he is capable of diſtinguiſhing them with preciſion, and takes, as Hippocrates has ſaid, the qualities of each, only according to their true value.

It is likewiſe by erudition, that we become informed of the exceptions which are occaſionally to be made to general rules. There are ſome things, which occur ſo ſeldom, that is impoſſible to know what part ought to be taken, unleſs we have learned, by reading, what is moſt likely to be of uſe.

Although general principles are true, and are even better known in theſe times, than they were formerly, by the improvements that have been made in phyſiology; it muſt not be thought, however, that they admit of application in all caſes whatever. Nature, although very uniform in the generality of her operations, ſometimes deviates from her ordinary route, and hides from us her reaſons for this. It is in theſe caſes, therefore, that we muſt have recourſe to the obſervations of others, and derive from them ſome information, at leaſt, by reaſoning from analogy. Erudition, will, therefore, be uſeful here; when routine will be altogether unequal to the inquiry. The greateſt phyſicians, and philoſophers of all ages, have, indeed, agreed, that erudition is the only way to attain the true knowledge of the art.

Phyſic has derived its greateſt advantages from erudition, and no progreſs has been made in it in any country, but in proportion, as phyſicians have united to the knowledge of others, that which they have acquired themſelves. We very well know, that the ancient inhabitants of Aſia, were the firſt who made any obſervations in phyſic; but we are unable to ſay, what theſe obſervations were; becauſe, we have no longer the writings of Hermes, which were the guide of the Egyptian prieſts, who, alone, undertook the cure of diſeaſes. Theſe prieſts concealed the myſteries of their practice from the community, whom they conſidered as profane. Galen, however, tells us, that before the time of Eſculapius, the Egyptians had no other knowledge in medicine, than a certain routine. The Babylonians, even in the time of Herodotus, expoſed their ſick in the public places, with a view to conſult paſſers-by. Strabo ſays the ſame things of the ancient Luſitanians or Portugueſe, and of the Egyptians. Under the reign of Amaſis, the Greeks began to be connected with the Egyptians, and it will readily be imagined, that the firſt knowledge of phyſic, paſſed about that time from Egypt to Greece, as the laws did by the means of Solon. An hundred and fifty years after Melampus, the firſt phyſician who was known in Greece, Eſculapius received the divine honours at Epidaurus, for having added to the knowledge and ſkill of his predeceſſors. All his knowledge, however, ſeems to have been either empirical, or in ſurgery. Celſus goes ſo far as to ſay, that Eſculapius was deified, for having exerciſed phyſic, with ſomewhat more refinement than had been common before his time, when it was altogether in the hands of the people; and Pliny adds, that the practice of Eſculapius was chiefly in ſurgery, and that both he and his ſons, contented themſelves with giving to the wounded, a mixture of wine, flour and cheeſe.

The Aſclepiades, ſhut up the art, within the temples of their common father, where the ſick were obliged to attend, and wait, for the anſwers of the God, amidſt a variety of religious ceremonies; or rather, for the immediate aſſiſtance of his mortal deſcendants.—Theſe impoſtors continued to abuſe the people, till the philoſophers undertook to remove the maſk, by attending at the bed-ſide of the ſick, and giving their opinion with more truth, though with leſs parade. Celſus conſiders them as the true founders of the art. But ſoon the prieſts of Eſculapius found means to draw over to them, ſome of the moſt reputable philoſophers ; and thus, two parties were formed, and the emulation that took place between them, did not a little contribute to the perfection of medicine.

Hippocrates, as the true deſcendant of Eſculapius, was very attentive to obſervation; but he was of opinion, alſo, that a phyſician ought to know all that had been thought before him, unleſs he would deceive himſelf and others. Although Hippocrates was not the founder of phyſic, he merited, in every reſpect, the title of its father, by the light which his obſervations threw on the art, and by the happy manner in which he combined reaſon with Experience, ſo as to render philoſophy and phyſic reciprocally uſeful to each other. Hippocrates proved, by his own conduct, how right he was in ſaying, '*that a philoſophical* '*phyſician reſembled the Gods.*' With his enlightened principles, and the natural powers of his genius, he became a truly great phyſician; uniting to the moſt penetrating mind, the moſt ſolid erudition and prudence. Indeed, it may well be ſaid, that he either ſaw nothing, or ſaw things as they truly were. It was, therefore, by the means of eruditon, that phyſic raiſed itſelf in Greece. It was more imperfect in thoſe provinces in which the Grecian writings were unknown. The Romans derived all their knowledge from the Greeks; and phyſic was with them, only a pythagorical language, till they received the Grecian literature. The contempt, which the Chineſe have, in all ages, expreſſed for the inventions and diſcoveries of other nations, has, even to theſe times, confined phyſic to a ſtate of ignorance; although the Emperor Chi-Hoang-Ti, 37 years before the chriſtian Æra, ordered, under pain of death, all books to be burnt, excepting thoſe on Architecture and Medicine. The inhabitants of Malabar, although pretty well civilized, make all their phyſic to conſiſt in the knowledge of ſome plants, and in the art of forming, with theſe plants, certain receipts, which are tranſmitted from father to ſon. Phyſic is ſtill in its infancy, wherever erudition has not extended its light; nor would it ever have been reduced to the principles of a ſcience, without the writings of thoſe phyſicians, in whoſe learning, poſterity has felt itſelf ſo intereſted. Had it not been for theſe, ignorance would ſtill have claimed to itſelf, the right of delivering its oracles; and every empiric would ſtill be conſidered as a divinity. We know, however, that the Experience of the oldeſt phyſician, although he may be a man of the moſt extenſive practice, is not, of itſelf, ſufficient; becauſe our knowledge accumulates with ſo much ſlowneſs, that many ages muſt neceſſarily paſs away, and the labours of many nations be united, before any ſcience, or even part of a ſcience, can be brought to perfection. It is uſually ſome great genius, who opens a new route, others advance in it, after him, perhaps to a conſiderable length, and 'tis often reſerved for a fourth perſon to attain the end, after overcoming a thouſand difficulties. Neither Bacon nor Newton, would, of themſelves, have done all that had been done before their time; and without the diſcoveries of Deſcartes, Newton would, perhaps, have finiſhed where Deſcartes began. The greateſt men have ſtood in need of the knowledge of preceding ages, while an empiric, like a truly ignorant fellow, is ſo conceited with himſelf, as to fancy, that he alone poſſeſſes all the learning of the world.

A phyſician, therefore, who would, by his own Experience, learn the things, which erudition would furniſh him with, in a few years, would require a life of ſeveral ages, beſides the moſt ſublime genius. But it is not given to every man to live to the age of a Neſtor, or to be the inventor of all the arts, which are eſſential to the knowledge of one. All the ſciences are ſiſters, and mutually lend their hands to each other; and they are, all of them, rather the daughters of time, than of genius. *(g)* Whatever may have been the features of each of them, at their birth, they never appeared charming to man, until time, aſſiſted by the hand of genius, had rendered them intereſting to humanity. It is well known, how much time is neceſſary to the perfection of any art; whereas, reading furniſhes us in a very ſhort time, with the diſcoveries of all ages. A ſingle moment, is ſufficient to inform us of a great number of truths, which were purchaſed by the care and trouble of years. A phyſician, though poſſeſſed of the fineſt genius, will, without reading, be liable to fall into the errors of the firſt obſervers, before he attains the leaſt truths, that books would afford him. To ſee an error pointed out, is to have made ſome ſtep towards knowledge; and to have found, at

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(g) Medicina non ingenii humani partus, ſed temporis filia. *Baglivi*.

the ſame time, the means of avoiding it, is to have acquired a true knowledge. Such is the advantage that reading affords us, on a thouſand different objects. But, is the avoiding of error, the only end that we obtain by reading? It is certain, that, with the aſſiſtance of a little genius, we are ſoon led by it to true knowledge; for it is eaſy to acquire truth, when we are informed how it may be diſguiſed, or what is only a falſe appearance of it. One truth, ſoon leads us to another; but the progreſs will be much more rapid, when the firſt truths are already known. 'Life is 'ſhort, ſaid our great maſter, but art is long.' *(h)* It is, therefore, impoſſible to experience every thing one-ſelf. It is the object of hiſtory, to collect together the obſervations of different ages; and it is by reading theſe, that the man of erudition appropriates them to himſelf. A thouſand phyſicians, ſaid Rhazes, have laboured for a thouſand years paſt, for the improvement of phyſic, and it is by carefully reading their works, that a man will inform himſelf of more things, during a very ſhort life, than he would by running from patient to patient, even during a thouſand years. It is true, that Sydenham employed in obſervation, the time which others have devoted to reading; and empirical practitioners, will, perhaps, be diſpoſed to quote him in their favour. But I will obſerve to them, that they will have no claim to the authority of his example, till they are poſſeſſed of his extreme penetration in inquiry, his indefatigable ap-

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(*b*) Ο Βίος Βραχὺς, ἡ δε τέχνη μακρὴ. Hipp. Aphor. I.

plication, and the genius, for generalizing individual obſervations, which led to the eſtabliſhment of the true and ſolid principles, this Engliſh Hippocrates formed to himſelf in practice. It is well known, that in the time of Sydenham, phyſic was ſo obſcure a chaos, and the love of hypotheſis ſo prevalent, that the rules, followed by phyſicians, were drawn from falſe ideas, which led them, every day, farther from reaſon.—It was reſerved for Sydenham to bring them back to truth and nature.

Reading renders us familiar with the methods of every time and country; and thus we are enabled to become inventors, without ſeeming to be ſo. A man of genius, ſoon perceives the modification he is to adopt, when he is about to put the precepts of others in practice. He becomes, as it were, an original, without wiſhing to appear as ſuch. He applies a principle, but he confines or extends the ſenſe of it, according to the nature of the circumſtances, that occur to him. If Sydenham wiſhed to be every where his own maſter, it was becauſe he poſſeſſed the rare prudence of interfering with nature, only when he perfectly underſtood her indications. Sydenham, was truly an original; and yet, at the ſame time, he acted with extreme caution, in modifying, and varying and correcting his modes of treatment, till, by repeated obſervations, he had learned when he might depend on the language of nature. His example, proves to us, how much prudence and ſagacity are required to be an original in early life. In general, it is ſo rare to be an original, with ſucceſs, that we have ſeen, as yet, only one Great Corneille, who has created and perfected his art, in France. Greece, could boaſt only of one Homer. *(i)* Theſe advantages are purely the effects of genius.

If the art of phyſic, neceſſarily requires its followers, to be men of genius, it demands, at the ſame time, that they ſhould be inſtructed in the manner we have mentioned. Nature, being infinite in the combination, production, and variation, of all her phenomena, the phyſician ſhould ſtudy her attentively. He will attain much of this knowledge, by reading and attending to the obſervations of others. In order to make obſervations himſelf, it will be neceſſary for him to have ſome fixed principles to build upon; he will be capable of diſtinguiſhing diſeaſes, only in proportion as he is previouſly acquainted with their hiſtory. Hence the utility and neceſſity of reading. The moſt intereſting ſymptoms of a diſeaſe, are often ſo imperceptible, or are ſo tranſitory, that he who knows not ſomething of them beforehand, from hiſtorical obſervations, will almoſt always fail to notice them. The penetrating maſterly eye, which is ſo uſeful at the bed-ſide of the ſick, depends, indeed, very often, on genius. But no man will underſtand any thing, of which he has not previouſly a true idea; nor will he reap any advantage from what he ſees, unleſs he is aware of the tendency, nature has on the occaſion.

(i) Dr. Z. might have added our Shakeſpeare to theſe examples, if more had been neceſſary. 'Ce Dieu du Thêatre,' as M. Clement, his French editor ſtiles him, having, in the fulleſt ſenſe of the word, poſſeſſed a creative genius.

Without this knowledge, the principal diſeaſe, is ſometimes miſtaken for a ſingle ſymptom, or a ſymptom for the diſeaſe itſelf; and in acute diſeaſes, the patient is almoſt in the grave, before any regular method of cure has been adopted; and the practitioner, ſo far from being able prudently to aſſiſt, or foreſee the wants of nature, is unable even to follow her. On ſuch occaſions, we ought not only to be able to ſay, from our knowledge of the animal œconomy, what may be expected to reſult from ſuch and ſuch a determination, in certain circumſtances; but we ought likewiſe, to have ſeen, in the obſervations of others, in what way nature terminated ſimilar diſeaſes, and with what ſucceſs art attempted to imitate, or aſſiſt her operations in thoſe caſes.

Without ſuch a knowledge, not only acute diſeaſes, will almoſt always terminate fatally; but even chronic ones. Indeed, in theſe laſt, it muſt be confeſſed, that all the reſources of phyſic, too often fail. A phyſician, therefore, who ventures to approach the bedſide, without this previous hiſtorical knowledge, can be conſidered only as an uſeleſs and idle ſpectator. Happy is the patient, whoſe phyſician, with ſuch limited knowledge, is ſufficiently timid and diffident, to remain altogether inactive! May it not be aſked, whether Sydenham himſelf, did not loſe many patients, from not having derived from the writings of others, by an extenſive reading, many parts of knowledge which he could acquire only by infinite care and induſtry? The more obſervations on any particular caſe, we have collected from books, with the more preciſion will our judgment be determined. A phyſician, who has not read, muſt neceſſarily be expoſed conſtantly to fear and uncertainty. The ſmall number of diſeaſes that any one man can have an opportunity of ſeeing, will afford him but a feeble light. His obſervations will be confined within a very narrow circle. Can ſuch a man diſtinguiſh, in an extraordinary caſe, either what is indifferent, or what is dangerous, as he would have done, if he had cultivated books? Is he not neceſſarily obliged to fear, when his uncertainty, can, at the moſt, afford him hope? And can he fail, in ſuch a ſituation, ſometimes to promiſe much, in the very moment that the patient is expiring; as I have, more than once, ſeen happen, to the diſgrace, not of the art, but of the phyſician? Will not ſuch a practitioner, often attend to a ſymptom, which is of little conſequence, and thus neglect, or overlook, an eſſential ſymptom, on the treatment of which depend the life and health of the patient.

It too often occurs, that diſeaſes are attended with ſuch particular circumſtances, that, without the aſſiſtance of books, a phyſician would know nothing of the matter, till the death of the patient. How often does it happen, that even the inſpection of the dead body, affords us no ſatisfactory information, even after the moſt exact diſſection? We have occaſion to ſee, in Switzerland, as in other countries, ſome of thoſe intermitting fevers, which carry off the patient, in the third or fourth paroxyſm. The patients die, as it were apoplectic. A phyſician, who has ſtudied the ſigns of theſe fevers in Torti and Werlhoff, will at once maſter them, and ſave his patient; whereas, the practitioner, who never reads, will only gape over his patient, during the firſt and ſecond attacks, and will be, as it were, thunderſtruck, to ſee him die in the third. De Haen, has ſeen Tertian fevers prove fatal in the third fit. He proves to us, after Sydenham, Morton and Huxham, that certain diſeaſes, in which no fever is perceived, are however. true fevers, and ought to be treated as ſuch. Of this number, are apoplexy, colic, and in general, all diſeaſes, which ariſe from ſome degree of inflammation, and which, having regular fits, although without any ſign of fever, become mortal, in one or other of the attacks, as thoſe phyſicians have obſerved. It is certain, therefore, that the knowledge of theſe diſeaſes, can be derived only from books; and that the phyſician, who is the moſt in vogue, is the moſt dangerous, provided he does not read. Such a one may be ſaid to look on, without being able to diſcern any thing; and, by being equally ignorant at the end, as at the beginning, of a diſeaſe, he will, at moſt, have the talent of abandoning to nature, a diſeaſe, which he might have cured, if he had learnt how to know it. Boerhaave, candidly tells us, that, after having obſerved the Lues Venerea, during thirty-ſix years, he met with ſymptoms, which the oldeſt obſervers had not ſeen before. Amidſt theſe difficulties, he had recourſe to the beſt writings on the ſubject; and after having carefully read them all, we are informed by him, that in a little treatiſe by Hutten, *(k)* he diſcovered the

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(k) The title of this work, was *De Guajaci Medicina & de Morbo Gallico*. Moguntiæ, 1519, 4to. An Engliſh edition of it was publiſhed by Thomas Peynel, in 1540. Hutten, in this work, aſſerts, that after trying mercurial unction, and other remedies, to no purpoſe, he had found his cure in Guaiacum. Aſtruc, however, who had an antipathy to this remedy, goes ſo far

the means of relieving the moſt deſperate caſes; even when Mercury was of no efficacy. In this book, he declares likewiſe, to have found all that quacks, and venders of ſecret remedies, have vaunted, at different times, for the cure of this diſeaſe.

All diſeaſes, are not even known to us by name. The number is ſo great, that the moſt experienced phyſician cannot flatter himſelf with being acquainted with them all. A diſeaſe, ſometimes makes its appearance in a country, which had been very well deſcribed by authors, but which is unknown to the phyſicians of that country. Great numbers of ſick are carried off, and recourſe is had to old practitioners, till ſome young phyſician, in the courſe of his reading, diſcovers the true nature of the epidemic, and ſaves, perhaps, a whole province, by a ſingle obſervation. *(l)* There have been many inſtances of this. It is neither in fair weather, nor with a favourable wind, that we diſcover the ignorance of a pilot. The true phyſician is ſeldom known, but in extraordinary caſes. The ordinary practitioner, who trudges on in an old-beaten track, ſeems ſuperior to the man of real learning, ſo long as he continues within his circle; but the moment a new and ſingular diſeaſe occurs, the maſk drops, and the popular practitioner is at once confounded with the vulgar.

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far as to ſay, that Hutten himſelf died of the Lues, three years after the publication of his book.

(l) How applicable is this obſervation to the celebrated Dr. Fothergill. The firſt edition of his account of the ulcerated ſore throat, was publiſhed ſo long ago as the year 1747.

The advantages of erudition, are, indeed, ſo conſiderable, that every phyſician ought to attain it. If his capacity is unequal to it, he will do well to give up the ſtudy of a ſcience, for which he is not deſtined by nature.

CHAP. IV.

Of the Characteriſtics of Medical Learning.

THE number of men of true learning, is inconſiderable; and of thoſe who really are ſuch, the knowledge of the greater part, is of no uſe to ſociety. Their acquiſitions, are like gold in the hands of the miſer, which affords no advantage to the ſtate.

I diſtinguiſh what is uſually called erudition, from true learning. A man of erudition, may, at the ſame time, be a very great ſimpleton; whereas, a man of true learning, muſt, neceſſarily be a man of genius. He not only is acquainted with the ſciences, which depend on reaſoning and memory; but he poſſeſſes a true ſpirit of philoſophy, which forms, as it were, the ſoul of his learning.

Erudition, conſidered by itſelf, is a mixture of good and bad things, often contradictory to each other, and badly digeſted; which burthen the memory, at the expence of common ſenſe, and render the ſimply lettered man, rich, in proviſions that are uſeleſs, and poor in ideas; great in minute things, and very little in great ones.

One of theſe lettered men fancies himſelf of vaſt importance to ſociety, when he has retained the diviſions and chapters of all ancient and modern works, and can tell how many times a word is to be met with in them; although he has omitted to inquire, whether the ſenſe of the word is of any utility to the phyſical or moral man. Theſe people, forgetting that man was deſtined to think, collect together, paſſages, without ever knowing the ſpirit of them. They are like ſome perſons, who keep together the ruins of a building, without reflecting, that the materials may form a regular edifice. If a word, or a quotation follows in due order, they are very careleſs either of the choice, or the order, or the connexion. They are ſatisfied with the page, when it is well filled; and they conceive the mind to be ſufficiently ornamented, when they are able to repeat thirty or forty words, to explain one. Happily for the preſent age, this rage for philology, is, in a great meaſure, paſſed away. We now require words; but, in matters of ſcience, we require only ſuch as are uſeful.

I do not, however, mean to blame philology itſelf: I wiſh only to ridicule the abſurd cuſtom of commenting on the words and ideas of others, without ever thinking ourſelves. This vain collection of borrowed ideas, keeps the mind in a ſtate of vile ſervitude. A man will never know the powers of his capacity, until he tries what he can do. The moſt learned phyſician, is, therefore, a very uſeleſs man, if he has not read, rather with a view to improve his genius, than to burthen his memory; and to collect together, intereſting truths, rather than to accumulate words. We learn to judge ſoundly of things, only by uniting to erudition, a genius, that is capable of appropriating to itſelf, the thoughts and the learning of others. We ſhall, then, not be liable to receive erroneous impreſſions from books, becauſe our judgment will be firmly eſtabliſhed.

It is only the man of true learning, who can diſtinguiſh the merit of every writer; and it is particularly from ſuch a capacity, that the ſucceſs of our labours depends. When we are aware of the progreſs that has been made in a ſcience, and of what is certain, doubtful, or altogether unknown; and likewiſe of the manner in which we ought to diſcuſs what is doubtful, or inquire after what is unknown; we then know what ought to be rejected, examined, or adopted. Without this critical diſcernment, which belongs to genius alone, nothing can be read with advantage. Reading will only ſerve to corrupt the judgment, and weaken the mind; we ſhall believe many things, but, at the ſame time, know but few.

Medical writings, like all others, contain errors, in the ſame page with the greateſt truths. The prejudices of authors, have often buried theſe truths in the darkeſt obſcurity. There are few of thoſe great maſters, whoſe leaſt reflection is a luminous truth, and an important precept: it is more frequently amongſt a dull aſſemblage of words, that we muſt have the courage and the genius to ſearch for an obſervation, which ſeems to elude the moſt penetrating eye. The greater number of writers, ſay but very little, in the moſt tedious details; and we are obliged to read with great patience, that we may, from time to time, glean ſome intereſting advice.

The philoſophical genius, which has been ſo long miſunderſtood, in modern times, and which rendered the ancient writers ſo ſolid and important, could not make itſelf felt, in times, which were inſtructed only through the channels of authority or prejudice; and the writings of phyſicians, did not fail to partake of this abuſe. The futility and reveries of the ſchools, influenced every mind, and left no other diſtinction between the learned and the vulgar, than the blind reſpect, which the people are always willing to pay to what is myſterious.

The learned of thoſe times, were ignorant men, and the ſuperſtitious vulgar, might be ſaid to know more than they did; becauſe they believed more. The modern reader, is required to have the more genius in reading thoſe authors; becauſe their writings abound only with falſe genius.

Hippocrates will always be conſidered as the father of phyſic; and from his writings was derived almoſt every thing that is good in Plato, Ariſtotle, Galen, and the Arabians. Cicero ſeems to have read him attentively. Plato, who was cotemporary with Hippocrates, has left us in his Timæus, a kind of ſyſtem of the theory of medicine. Nor was he a ſtranger to the practice of phyſic. Other philoſophers, both before and after him, applied themſelves to it. It is even aſſerted, that Ariſtotle followed the trade of ſelling medicines, till he became the diſciple of Plato, and the preceptor of future ages. Ariſtotle, has certainly been very uſeful to phyſicians; and we find, in almoſt all his works, the moſt intereſting truths in natural philoſophy, and the animal œconomy. Baron Haller conſiders him as a man who united a moſt uncommon genius to the moſt aſſiduous application, and who arranged his ideas very methodically, though he ſeems to have been more calculated for generalizing the obſervations of others, than for forming any himſelf. He had only one defect, and this was common to all antiquity. Nobody made experiments, while all were ready to adopt whatever was fabulous or falſe. Volumes might be filled with the fictions which the poets, and the people have advanced.

Galen joined to an extraordinary degree of erudition, a moſt lively and inventive genius. He was thoroughly verſed in the peripatetic philoſophy, and in all the ſyſtems of antiquity; beſides this, he was truly eloquent. Suidas ſays, that Galen had written more than five hundred treatiſes on phyſic, and about two hundred and fifty on other ſciences. Never had any phyſician a more vaſt or penetrating genius, than Galen; and one cannot reflect, without wonder, that he was able to unite within himſelf, and into one ſyſtem, all that was known in phyſic, even to his own time. The pure doctrine of Hippocrates, is ſometimes obſcured in his writings, amidſt minute ſubtilities; nevertheleſs, Galen followed Hippocrates in his practice, rather than any other phyſician. It is this which renders his works ſo intereſting to us. In the opinion of the beſt judges, the difference between the writings of Hippocrates, and thoſe of Galen, lies in this; that thoſe of the former, are founded on experience; whereas, all that is peculiarly Galen's, in his writings, is theory.

The practice of Hippocrates, is ſupported with very little reaſoning; whereas, Galen often gives way to the diſcuſſion of arguments, which have more of ingenuity in them, than real uſe. In his practice, however, as we have already obſerved, he followed Hippocrates; and in general, he ſeems to have conſtantly had in view, this maxim,

Λεγε πρακτικως, ϗ πρακτε λογικος. (m)

The Arabians added much to the ſubtilities of Galen, and they gave ſo much way to their imagination, that phyſicians employed themſelves on empty and unmeaning ideas. Their ſyſtem of phyſic, was made up of bold hypotheſes; and with theſe they were contented. And yet, with all theſe imperfections, it muſt be confeſſed, that they improved on the methods of treating acute diſeaſes, invented chymiſtry, and rendered pharmacy ſubſervient to phyſic. With reſpect to the theory of medicine, and the principles of practice, they only repeated what they derived from the Greeks.

Phyſicians in Europe, were long employed in commenting on theſe ſophiſts. The writings of the Arabian ſchools, were known and ſtudied long before thoſe of the Greeks. At length, about the beginning of the thirteenth century, the Grecian literature began to be revived, and with this, the writings of Galen. Inſtead of contemplating, or analyſing nature, they

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[(m) '*Reaſon as a practitioner, and practice with reaſon.*'

analyſed Galen; and phyſicians were ſatisfied with admiring him, without attempting to improve the art itſelf. Some of them compoſed very dull and tedious commentaries on his writings; others abridged them. All of them agreed in adhering ſo religiouſly to the tenets of Galen, and Ariſtotle; that, with theſe on their ſide, they choſe rather to err, than to embrace truth, by following the ſyſtems of others. *(n)*

At length appeared the chymiſts. Paracelſus, a native of the Canton of Apenzel, in Switzerland, a great chymiſt, ſurgeon, and aſtrologer, undertook to found a new ſyſtem of phyſic, on the ruins of thoſe who had gone before him. From his profeſſor's chair at Baſil, he burnt publicly the works of the ancients. In the firſt part of his Treatiſe on the Plague, he obſerves, that there is nothing in their writings, which can afford us any true help; becauſe they know neither the cabala nor magic, and, of courſe, could not be acquainted with the origin of diſeaſes. He went ſo far as to ſay, that Galen had written a letter to him, from Hell, and that he had himſelf diſputed with Avicenna, on the borders of the infernal regions. His imagination was ſo eccentric, and he indulged ſo much in the moſt idle reveries, that he adopted all the tales of ſorcery, aſtronomy, geomancy, chiromancy, and the cabala. He uſed to

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(n) It was Riolanus, who aſſerted in his inaugural diſcourſe, that he had much rather err with Galen, than cure his patients with the remedies of Paracelſus.

ſay that when God refuſed to aſſiſt him, he conſtantly had recourſe to the Devil.

Paracelſus undertook to cure incurable diſeaſes, by means of certain words, or characters, the virtues of which he extolled, beyond any of the powers of nature. He even went ſo far, as to aſſert, that by chymical means, he could produce a truly living child; which, except in not being quite ſo large, ſhould reſemble, in all its parts, other children. And yet, notwithſtanding all theſe dreams, Paracelſus contended, that he had ſtudied nature wholly in herſelf, and not in books. In other reſpects, he led the liſe of a filthy animal, and paſſed away his hours in the moſt vile and diſſolute ſociety. Language, which was given to men, to make themſelves underſtood, is with Paracelſus, an incomprehenſible jargon. His writings ſeem to partake of the drunkenneſs, in which he continually indulged with his ſottiſh companions. The myſterious ſtile in which he wrote, ſeemed, in the eyes of ideots, to conceal the moſt important truths. He aſſerted, that nobody could refute him; and in this he ſpoke truth, becauſe nobody could underſtand him.

With theſe qualities, however, Paracelſus attained to the higheſt reputation in phyſic, and is ſtill in great conſideration with weak and ignorant people, who are attached to alchymy. This is the way in which he writes, in the preface to one of his books, entitled, *Paragranum* " 'Tis your duty to get behind " me, Avicenna, Galen, Rhaſes, Meſue, Montagnana; " behind me, doctors of Paris, Montpellier, Suabia, "Cologne, Miſnia, and Vienna. You, Iſlands of the "Sea. Thou, Italy; Thou, Athens; Thou, Greek; "Thou, Arab; Thou, Iſraelite, behind me; for the "monarchy is mine." He was conſtantly poor, notwithſtanding his art of making gold. His univerſal and infallible remedy, was never able to preſerve him from the gout, or from his cough, and the ſtiffneſs of his joints. In ſhort, he, who poſſeſſed the *ſtone of immortality*, ſuffered himſelf to die, before his fiftieth year. It is to no purpoſe, that the tricks, the temerity, the extravagance, and the ſuperſtition of this man, are ſo ſtrongly marked in his writings: his followers have conſidered him as a divinity.

Van Helmont followed Paracelſus in many things. Like him he had a ſovereign contempt for the ſchools of his time; and this, not without reaſon. He directed his reſearches to the moſt powerful medicines; and he conſidered, as Paracelſus had done, chymiſtry as being ſuperior to phyſic. He deſpiſed the obſervation of the ſeaſons, and their changes, and likewiſe the ſigns and the cauſes of diſeaſes. He, too, had his univerſal remedies, and his wonderful panaceas, and was equally conceited of his own merit. He ſays, in one part of his writings, that God had enlightened his mind, the moment he threw away his books, to travel in the world on the wings of truth. In another place, he aſſerts, that nobody knew any thing of phyſic, beſides himſelf. He extols himſelf, for having made more progreſs in the ſciences, while aſleep, by the aſſiſtance of dreams, and nocturnal apparitions, than he had done by the uſe of his reaſon. He ſays, that the practice of the ancients is good for nothing, becauſe they were heathens. *(o)* Such is the reaſoning of this wiſe Fleming!

In this low ſtate of learning, the number of ſimple and compound remedies, multiplied every day with extreme confuſion. The Galeniſts attributed to their ſimples, virtues, which ſeemed to ſurpaſs any thing that could be expected from human nature; and, according to them, every plant was an almoſt univerſal remedy. The chymiſts, on their ſide, related the moſt wonderful things of their extracts and tinctures. Their ſublime works were diſplayed as the triumphs of nature; and the moſt conſummate ignorance, aſſumed in them the tone of the moſt reſpectable oracles. In ſhort, both the Galeniſts, and the chymiſts, are ſo abſurd in their doctrines and remedies, that it would ſeem wonderful that they ſhould ſtill, even in theſe enlightened days, continue each to have their followers, if every day's Experience did not convince us, that the moſt ridiculous opinions, are always the moſt durable amongſt men. The works of thoſe writers, will be, therefore, more likely to lead us into error, than to inform us; if we are not previouſly aware of the

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(o) Lobkowitz has given the following character of this perſon. "Van Helmont, for I knew the man, was pious, learned, "and of great reputation. He was a ſworn enemy to Ariſtotle, "and Galen. The ſick never languiſhed long under his care, "being uſually killed, or cured, in two or three days. His "writings are one continued ſatyr againſt the Peripatetics, and "Galeniſts: they are very voluminous, but do not abound much "with medical inſtruction."

the real utility we have reaſon to hope to find in them.

Writers, in general, inform us of what they themſelves think; but there are few of them, who tell us, at the ſame time, what *we* ought to think after them, or how we may learn to think well. It is this want of fixed and enlightened ideas, ſays the celebrated M. D'Alembert, which excites in us the deſire of knowing the thoughts of others; and we endeavour, by this appearance of true or falſe knowledge, to replace, in the beſt manner we are able, our deficiency in true knowledge. We ought leſs to inquire after what others thought, than to diſtinguiſh what they thought juſtly. M. Le Clerc, ſpeaking on this ſubject, ſays, that there are in various parts of Europe, ſocieties eſtabliſhed, for the progreſs of phyſic, and that the views of all of them were grand and pleaſing; but that, by ſome fatality, which he would not undertake to explain, they were badly fulfilled, and their writings, were rather a collection of what had been already ſaid on a thing, than of that which ought to be ſaid. He adds, that we find, in thoſe collections, all the idle tales of old women; as if natural hiſtory was deficient in abſurdities.

Some laborious writers, whoſe zeal cannot be too much praiſed, purſued other meaſures to render themſelves uſeful to poſterity. They were deſirous of exhibiting a view of all that had been ſaid before their time, and then of giving us a hiſtory of diſeaſes, by drawing together the ancients and moderns. But theſe views have been ſo badly executed, that it would ſeem as if the authors conſulted rather their own intereſt, than the reputation and advantage of poſterity. Theſe Noſological works neceſſarily ſuppoſe that which has never been, by conſidering diſeaſes as being abſolutely different in their kinds; and the ſemeiology, which is the part we require as our guide in theſe details, is ſo badly deſcribed, and ſo ſuperficially analyſed, that the unlearned can draw no immediate advantages from them; and he who is well inſtructed, has no occaſion for them.

Other phyſicians undertook to give the hiſtory of diſeaſes in very ſhort extracts. In theſe, each diſeaſe was to be characterized by taking, from different writers, its moſt exact and preciſe ſymptoms.—This deſign was a very laudable one; but where is the man, who would be capable of doing juſtice to it? Do not all the abridgements that have been offered to us, hitherto, leave us more than half the things to be wiſhed for; and, in general, does not the ſpirit of ſyſtem change even that, which would, perhaps, otherwiſe, have been good? When I read a diſeaſe in Hippocrates, I ſee its hiſtory clearly deſcribed in three or four lines. If I read the ſame diſeaſe in a modern writer, I find a long detail of three or four pages, in which I can diſtinguiſh almoſt any other diſeaſe. This abuſe ſeems to originate from phyſicians allowing too great a ſcope to their imagination, when they attempt to copy nature.

It is only in thoſe writings which delineate nature to us, with all her features, and in her proper point of view, that we can learn how to know, or preſage what will happen. Accurate obſervations, therefore, joined to ſuch reaſonings, as may enable us really to interpret nature. can, alone, form the true phyſician; and ſuch were Hippocrates Fernelius, and Sydenham. All three of them, however, ſeem to have acquired this rare talent, by a very different conduct.

Hippocrates, enlightened by obſervations, which he was often obliged to rectify, as he himſelf tells us, appears to have been long attached to particularities, before he began to generalize his principles; but he did this, like a great maſter, as ſoon as he was able. Fernelius, born with a truly philoſophical genius, and ornamented with all that he could derive from the philoſophy and mathematics of his time, had ſtudiouſly applied himſelf to the writings of Hippocrates, which he read inceſſantly, together with the works of Plato, and Cicero. He began, as Newton did, by great principles. and then he deſcended to particularities. Sydenham acquired a knowledge of nature, by indefatigable labour; but his ſteps were often erroneous. He had the rare talent, however, of diſtinguiſhing his faults, and of finding out the way to correct them, conſtantly drawing his inſtruction from nature. The true records of phyſic are to be met with, only in the writings of thoſe, who were of the ſame caſt as the three we have mentioned. But, whatever may be the merit of an author, we ſhould never follow him ſo blindly, as to copy his errors.

We receive, with acknowledgement, the good counſels of Galen, of the Arabians, and of the enlightened phyſicians of the middle ages, who, being free from the prejudices of their times, and ſolely attached to the love of truth, appeared, in their day, as an Aurora borealis, without diſſipating all the obſcurity of the night. Every book is intereſting, when it ſupplies us with principles that agree with the operations of nature, although it may contain only ſome reflections, which may be ſufficient to complete an obſervation, or to become, as it were, the foundation of other, and more extended ideas. The works of Lord Bacon, which in certain reſpects, are by no means, intereſting now-a-days, were formerly of the utmoſt importance. We ſee, in them, the greateſt diſcoveries of the moderns, pointed out, as it were, with the finger. They ſerve, at leaſt in theſe times, to mark out a part of the progreſs of the human mind. They who ſupply us with an occaſion for thinking, often merit more of our praiſes, than thoſe who have diſcovered, and confirmed truths, which were, before, only ſimple hypotheſes.

It is not too extenſive a reading, that renders a man learned. Reading, in general, impairs ordinary minds. They ſoon become like a ſieve, and retain nothing that is thrown into them. Without a genius formed for the ſciences, reading ſupplies us only with opinions, and we never ſhall be able to analyſe any of them. He who ſpeaks truth, will, perhaps, be him, whom we ſhall the leaſt feel. Ten authorities will be more to be feared than one, if we are unable to diſtinguiſh which of them is legitimately founded. There are ſome perſons, who fall into a different abuſe. Pleaſed with the manner of one writer, they read only him, and they ſoon conceive, that all others ſpeak truth, only in proportion, as they think with him. There are ſome, who confine themſelves wholly to one writer. A phyſician told me, not long ago, with a view to authorize this conduct, that one of the moſt eminent phyſicians in England, had never read any other works than thoſe of Proſper Alpini, although no phyſician was ever more ſucceſsful in his practice. I will allow this. I will even ſay, that Sydenham had read no medical work whatever, when he began to practice. It ſeems right to adopt a middle way between the two extremes. The number of good writers in phyſic, is very ſmall. Of this number, many are only intereſting, by amuſing the leiſure of a curious man. I would, therefore, adviſe a phyſician to confine himſelf to the reading this little number of good obſervers. All the true writings of Hippocrates are not equally important.

I believe I have made it ſufficiently appear, how neceſſary it is to unite together the obſervations of all ages; without having occaſion to ſay, that he, who ſhould read only one author, although that author were Hippocrates, would be ignorant of what there is required to be done in many circumſtances. As a phyſician is not always able to chooſe his method of treatment, and as many accidents may occaſionally vary the appearances of a well known diſeaſe, it will be neceſſary to have recourſe to analogy; and how can any man give the neceſſary ſcope to his inquiries on ſuch an occaſion, who is not able, from his reading, to draw together all the lights which different authors may afford him on the ſubject.

C H A P. V.

Of the Influence which Erudition has on our Experience.

ALTHOUGH the learning of our predeceſſors, gives us their Experience, the moment we have acquired it; yet, we muſt not imagine, on that account, that we are conſtantly to be conſidered as men of true learning. With all this knowledge, a man may ſtill retain his prejudices. We ſee, every day, people of a prodigious erudition, who adopt the moſt abſurd opinions. True ſcience, ſaid Plato, and Ariſtotle, conſiſts not ſo much in knowing and adopting what others have known, as in judging, within ourſelves, on what we read and ſee. It conſiſts in ſeizing the true ſpirit of a thing; in ſeeing it in its true light; in diſtinguiſhing what men have added to it; in ſtrengthening our judgment, and ornamenting our memory; in extending our knowledge; and, in ſhort, in being the dupe neither of men times, place, nor authority.—This is true ſcience.

In the ſame manner, ſays M. Deſlandes, to believe, is not as with the vulgar, to give faith to every thing that others ſay; but to examine ſeriouſly, the reaſons which ſhould induce us to believe, or diſbelieve a thing. It conſiſts in diſtinguiſhing truth from what has only the falſe appearance of it, or certainty from probability. In ſhort, it is to be convinced that the opinion we adopt, or the meaſures we purſue, are ſuch as ought to be taken; and then we proceed with perſeverance, until, after every poſſible inquiry, we find ourſelves in error.

We, therefore, may be ſaid to have learned only that which we have appropriated to ourſelves, by reflection. This alone, is the ſource of true ſcience. We, therefore, believe nothing from the mere perſuaſions of others, but ſolely what we ourſelves clearly diſtinguiſh; or, in other words, what appears to us to be indiſputably true. But the truth, which Cicero conſidered with ſo much reſpect, and as the eſſence of the divinity itſelf, is ſomething of ſo delicate and exalted a nature, that few men, in any age, have been ſuppoſed capable of familiarizing themſelves with her.

With this way of ſeeing and believing, the Experience of different ages will no longer be an erroneous guide to us, but will teach us what will be true and uſeful in every caſe. Without ſuch an Experience, a phyſician will merit no conſideration. He will have read, perhaps, the obſervations of all ages; but, in general, he will know only uſeleſs particularities, if he is not able to eſtabliſh certain principles, by drawing together what he has read, and diſtinguiſhing, what the author himſelf ſaw, from what he ought to have ſeen.

True phyſic does not depend on individual obſervations, ſeparately conſidered ; but on the united obſervations of all ages, and nations ; diſtinguiſhing, however, what may be peculiar to any time, or place. I would prefer, ſaid Rhazes, a phyſician, who had never ſeen a patient, to one who ſhould be ignorant of what had been ſaid and written by the ancients. It is certain, that when he has read, and compared together, their precepts and obſervations, he will, with a very little practice, be enabled to treat the ſick with more ſucceſs than another of the greateſt practice, who never reads.

The experience of others, is, ſometimes, more advantageous to us, than our own ; and this, even in caſes we have often had occaſion to obſerve. To carry in our memory the deſcription of a diſeaſe, as it is drawn by a great maſter, is to be able to diſtinguiſh it, when the caſe occurs, with more preciſion, than we ſhould do from our own Experience alone ; unleſs we are one of the few rare obſervers, to whom no eſſential ſign, not even the leaſt ſenſible one, can eſcape.

It often happens, that we cannot ſee ſo well with our own eyes, as with the eyes of others. It is, beſides, much more eaſy to aſcertain a truth, or a diſcovery, than it is to find it. Experience, ſays Lord Bacon, would become, in ſome degree, uſeleſs, had we not treatiſes on the moſt minute things.

What I have ſaid, will perhaps, appear paradoxical ; and yet it is certainly true, that, after having obſerved diſeaſes, with the greateſt care, I have often ſound, that great medical writers had deſcribed all, and ſometimes, much more, than I had ſeen. I will allow, that there are few authors, who will ſupport this compariſon ; but they who do ſupport it, render our Experience the leſs neceſſary.

The detail of a chain of events, that are well analyſed, is often much more inſtructive, than the view of the things themſelves. Every man has not the capacity of diſtinguiſhing a train of phenomena, with any order. The appearance of complication, ſurprizes us; and the mind, inſtead of conſidering the matter with tranquility, is diſcompoſed. Sometimes it happens, that a ſingle phenomenon ſtrikes a ſuperficial mind ſo forcibly, that it is no longer able to fix itſelf on the other ſigns ; or at leaſt, to diſtinguiſh them properly. In ſuch a ſituation, a perſon cannot be ſaid to ſee ; he is, at the moſt, a looker-on.

A compleat inſtruction from books, is, therefore, in many caſes, to be preferred to that we can derive imperfectly from the inſpection of a thing itſelf. It is certain, that they who have ſeen, knowing, at the ſame time, the cauſes of a diſeaſe, always lead us to the truth, by the eaſieſt and ſhorteſt way. The habit of ſeeing, in the ſame manner, becomes, with us, after a certain time, as with them, a kind of natural talent, which leads us at once to the deſired end. Lord Bacon, very juſtly conſidered the true deſtination, and the eſſential utility of the ſciences, as conſiſting in the abbreviation of the long and complicated channel of Experience. He was perſuaded, that ſuch an abridgement would remove the complaints, which have been ſo inceſſantly made, againſt the length of the art, and the ſhortneſs of human life. It is by generalizing fundamental truths, that we can, alone, attain ſuch an abbreviation ; or rather, as M. D'Alembert ſays, by eſtabliſhing the principles of what we know, with certainty, in drawing together general and fundamental truths, into one point of view; in referring the parts of each particular ſcience to their principal head; and in avoiding, in this analyſis, that air of minuteneſs, which takes the branches by the tops. It will be likewiſe neceſſary to avoid that pretended genius, which, employing itſelf on the univerſality of things, miſſes and confuſes the whole, by aiming at including and abridging every thing.

The art of eſtabliſhing general rules, is a talent peculiar to great men, and is the foundation of true Experience. This rare talent is not leſs the reſult of an happy natural capacity, than of the united efforts of habit and reflection. It was, perhaps, by a ſort of chance, that Newton caught a glimpſe of the generality of his famous principle in the calculations of Deſcartes ; and it is probable, that he had applied it without much attending to it, long before he felt the whole of its extent and generality. The ſame thing may be ſaid of the great principles of Hippocrates. It was, certainly, to a happineſs of genius, that he owed the generality of his maxims. Boerhaave, who had ſeen much leſs than he had, does not ſcruple to own, that his aphoriſms are much inferior to thoſe of Hippocrates. The integrity of Boerhaave, is truly to be applauded on this occaſion.

Notwithſtanding what we have ſaid, it muſt be agreed, that a long habit of ſeeing, aſſiſted by a genius,

nius, ſuperior to that of ordinary men; and by a mind, attached wholly to truth, will eaſily enable us to feel the weight of general principles, that are more eſtabliſhed, although we ourſelves may not be ſufficiently acute to generalize from particular obſervations. There are perſons who are formed, as it were, for the following of others, and who will execute a deſign very well, although they never could have invented it. We every day ſee a military man do wonders with a handful of ſoldiers, if he is under the command of a ſkilful general; whereas, at the head of an army, he would, perhaps, be infallibly routed, if left to himſelf.

The knowledge of others, may, therefore, influence our Experience, in different ways; and it is uſually our natural talents, which determine its advantages. As every thing in nature, is capable of being referred to certain bounds or affinities; ſo, it is not ſtrange, that the Experience of former ages, ſhould become more or leſs advantageous, according to the faculties of each individual. If this indiſputable principle was not too much overlooked, we ſhould not ſo often ſee men, with weak heads, pretending, after thirty years practice, to have more Experience, than a young phyſician, to whom nature has given ſuperior faculties. Theſe old men, ſeem to have been born only to ſee the riſing and ſetting of the ſun.

It is true, that ſcience, without practice, is inſufficient; but a blind practice, has a greater inconvenience, by being dangerous. It is right to unite both theſe, by ſtudying, not only books, but men; and thus interrogating the dead and the living: but ſuch an interrogation, is not the work of a confined genius; much leſs of one, who is not born to be the diſciple of ordinary men.

The Experience of others, will furniſh us with rules for our own conduct, only in proportion, as we ſhall know how to eſtimate the conduct of thoſe, whoſe works we read. Very often, they only tell us what they did; and they were right to do this. But we ought to inquire of ourſelves, what we would do in a ſimilar caſe. To know how to put this queſtion, with a knowledge of the cauſe, at the ſame time, will be already to have learnt much. This, however, is not enough; we muſt know how to anſwer it: without being able to do this, we ſhall never ſee clearly what we ought to do; becauſe we cannot ſay, why theſe authors acted in ſuch or ſuch a way. Their errors, which it behoves us to avoid, will be ſo many rocks, againſt which we ſhall be liable to be foundered, in ſimilar caſes; and never ſhall we be able to reap, with a ſucceſsful hand, the harveſt they have provided for us, if we are not, at the ſame time, capable of appropriating to ourſelves the crop. Their ſucceſs, will, even ſometimes, be to us, the occaſion of error; and their learning, will ſerve only to bewilder us. Like the ſeaman, the phyſician will often find himſelf in ſtraits, which only great maſters will be able to paſs. Sometimes they have ſucceeded in the paſſage, only by the favour of ſome very happy circumſtances; and thoſe circumſtances will be unknown to us. We muſt learn, then, to diſtinguiſh, in their writings, thoſe things, which they did not think it their duty to hand down to us; becauſe our ſagacity, only can lead us to ſuggeſt them. The erudition, knowledge, and Experience of others, will, therefore, avail us but little, in thoſe caſes, which are, by no means, uncommon ones, without the penetration and genius, which help to form the ſagacious man.

Although the Experience of former ages often ſurpaſſes our own, we are not, however, to ſuppoſe, that antiquity has ſaid every thing. It is an error, to imagine that we are unable, now-a-days, to think for ourſelves, and ſee, at the ſame time, what was ſeen formerly.

Nature is invariable in the ſpecies ſhe has determined, notwithſtanding what ſome modern writers may have ſaid on the ſubject. Man, has therefore, even now, a right to ſay to the ancients, that they were deceived; as Hippocrates formerly ſaid to his predeceſſors. The knowledge of others, is to be received, only as it happens to be true. *Amicus Plato, ſed magis amica veritas*; and it is only by this title, that the Experience of others, ought to be reſpected by us; or that we can be able to draw from it, a real advantage to ourſelves.

The great point will be, as we have already obſerved, to take things according to their juſt value. It is nature which determines this; and the obſervations of others, will be very uſeful to us, in this reſpect; but there will, occaſionally, be much for us, either to add or retrench. Too often, much is attributed to the nature of things, which depends only on our manner of viewing them. Even the moſt inſtructed phyſicians, often diſagree about what ought to be underſtood by nature.

As all the reflections in this work refer to the knowledge of nature, I ſhall conclude this chapter, with ſome obſervations, which will have their uſe, ſhould they only furniſh occaſion for reflection on the aſſertions I propoſe to examine. If it is dangerous, as Galen ſaid to attach ourſelves obſtinately to opinions, which afford no ſolid proofs; how much more ſo is it, to conſider as deciſive, that which affords only doubt and uncertainty. Therefore, to take a ſingle reflection from an author, and then to make him ſay, whatever we ourſelves believe, without conciliating this thought, with what he may have oppoſed to it, in another part of his works, is at once to deceive ourſelves, and our readers. Such, however, is the conduct, that certain writers every day purſue, with a view of ſupporting their own opinions.

What are we to underſtand by the word, Nature, taken in its limited ſenſe, as relating to the human body?

According to the celebrated Sauvages, Nature, or the efforts of nature, are the ſoul which exerciſes its efforts upon the body, for the preſervation of the individual. Stahl has been reproached, for having aſcribed too much to the ſoul; but they who have done this, either have never read his works, or did not underſtand them.

The ſoul, according to Stahl, is a being, purely material; or rather, he admitted no ſoul; only the vital principle of an organized body. This proves, that his meaning has not always been underſtood.

Sauvages, on the other hand, conſidered the ſoul as being altogether ſpiritual; it is his opinion, that we ſhall follow, in order to examine his hypotheſis. Sauvages reclines himſelf on the authority of Galen; perhaps, ſays he, even Galen has granted too much to the ſoul. It is certain, however, from the avowal of Galen, himſelf, that he underſtood by the words, nature or ſoul, a certain innate heat, which he terms a ſubſtance, moveable of itſelf, and which is always in motion. He confeſſes, likewiſe, that he ſees nothing probable, as to the ſubſtance of the ſoul. Sometimes he calls it ſimply, Nature; ſometimes, an emanation of the univerſal ſoul, which animates the univerſe. He ſuppoſes, too, that the ſoul, which forms the fœtus, is different from that which is contained within the fœtus. But here he contradicts himſelf, without heſitation, when he ſays, that the ſoul, which puts all our parts into motion, is the ſame as that which formed us: while, at the ſame time, he aſſures us, that he knows nothing of the efficient cauſe which forms the fœtus. What anſwer can we give to theſe different concluſions? I do not undertake, ſaid Fernelius, to reconcile all the paſſages, in which Galen openly contradicts himſelf.

Sauvages, perſuaded of the ſpirituality of the ſoul, ſurely did wrong, to have recourſe to ſuch contradictory authority, to prove his hypotheſis. Cardanus, therefore, ſaw the matter more clearly than Sauvages has done; when he aſſures us, that we cannot abſolutely ſuppoſe, that Galen believed the immortality of the ſoul. So, that what Galen underſtood by the word, *nature*, would tend, altogether, to deſtroy the hypotheſis of Sauvages. That the ſoul ſuffers from the ſickneſs of the body, is a natural ſuppoſition, and what ought to be: but, to imagine that the ſoul finds out, and employs, all poſſible means to avoid or diſſipate danger, like a good practitioner, is, ſurely, not a reaſonable concluſion; nor do the premiſes allow us to favour it, there being a great number of intermediate propoſitions, which can never be demonſtrated. It ſeems to be natural to ſay, that the union of the ſoul with the body, conſtitutes what may be called actual life; and that, mechaniſm is the principle of all the efforts which the ſick body makes to remove danger. The cauſe may be equally well conceived, by ſaying, that it is the actual determination of the ſick body, which determines theſe efforts; and, without uſing the term, *Pſeudo mechanici*, Sauvages would have done well to have ſuſpended his judgment of operations, which may be referred to ſimple organization.

May we not ſimply underſtand by the word *nature*, *the actual vital power of a living organized body*, a force, which has, for its remote cauſe, the union of the ſoul with the body; and for its proximate cauſe, the nervous fluid? This opinion is clear, whatever the nature of the nervous fluid may be.

It will be agreed, that the body is ſubject to the empire of the ſoul, in all the motions we commonly ſtile *voluntary*; and on the other hand, that the ſoul ſeems to be ſubordinate to the body, in all thoſe motions, in which ſhe is in a paſſive ſtate. Daily experience will prove the truth of all this, to him who does not miſtake words for things.

As we know of no other reaſon for the union of the ſoul and body, but the will of the CREATOR, we are diſpenſed from making any inquiries on this head. It will be more intereſting, to inveſtigate the manner, in which nature endeavours to preſerve the machine in a ſick ſtate. Phyſiology teaches us, that the ordinary vital motions, are deſtined to keep up, in an equal manner, the determinations, which take place in a ſtate of health. On the leaſt interruption, whether it be in the ſolids or fluids, this harmony is impaired, and it is always at the expence of one part, that another acquires more ſtrength and vigour, as is proved by Experience. It is, therefore, only by ſome extraordinary movements, that the living machine is enabled to recover its healthy ſtate. This law is as invariable in brutes, as it is in man: it is even to be perceived in vegetables. There are plants, the roots of which avoid the neighbourhood of ſome other plant, by changing the direction in which they have been placed. I, myſelf, have ſeen this happen. If they cannot effect this, they wither and die after having exerted all their efforts If the changes in plants are ſlow, it is becauſe the fluids, which form the principle of vegetation, are circulated with extreme ſlowneſs; whereas, in the animal body, the fluids being moved on very rapidly, muſt neceſſarily affect the machine with violence, the moment any morbific or offenſive matter exerts its influence on the nervous ſyſtem.

Hence, the violent affection, either particular or general, of the whole body, and the proſtration which follows, and which is proportioned to theſe particular or general motions. This is the way in which nature acts ſor the preſervation of the animal. There is, therefore, no occaſion to have recourſe to the ſoul, to explain theſe operations.

It will be ſaid, that nature, in her motions, frequently tends to the deſtruction of herſelf. This objection effectually deſtroys the other hypotheſis, and confirms that which I have offered; becauſe, if by nature, we are to underſtand the intellectual principle, which neceſſarily watches over the preſervation of the body, it would be to contradict one-ſelf, to ſay this, after having laid it down as a principle, that the ſoul always had ſuch a tendency; whereas, by referring all this violence of motion to ſimple organization, we are no longer ſurprized to ſee an organized body deſtroy itſelf, by the mechanical powers which it derives wholly from itſelf. This deſtruction will be occaſioned by an exceſs in the motion of the nervous fluid, which will give too much action to particular parts. We ſee this often proved in the violent ſpaſms of ſome of the muſcles, the ſtiffneſs of which ſometimes continues two or three days after death.

Nature aims, however, at freeing herſelf from the conſtraint ſhe labours under; but one part acting only at the expence of another, a total ruin of the whole, muſt neceſſarily follow, if this increaſed action continues long to ſurpaſs the natural powers of the organs; and it is in this manner that nature is overcome, by the ſudden failure of her own powers, all of which ſhe employed in a very ſhort ſpace of time.

In this hypotheſis, the re-action of the ſoul on the body, when the body acts on it, is not denied. But we are not attending, however, to the motions which depend either on the ſuperior or inferior faculties of the ſoul; becauſe the ſoul would remove the danger, before it became extreme, if theſe motions depended on her. It is certain that ſhe does not do this. When the machine appears to be in a declining ſtate, the ſoul, ſo far from ſhewing any greater activity, ſeems to become more languid and inert; and unleſs art is called in to re-animate the action of the organs, and even force them to ſome irregular motion, the patient dies.

It would be better to baniſh from phyſic, all words void of meaning, than to make them the baſis of a ridiculous hypotheſis. Let any one, who is diſpoſed ſo to do, object to the conſequences which ariſe often from fear, joy, anger, and the other paſſions of the mind, and which produce fevers, ſudden death, languor, phrenzy, &c. I am diſpoſed to anſwer to ſuch a one, that all authors, without exception, who have undertaken to deſcribe to us diſeaſes of the mind, and the affections they produced in the body, have rather pictured to us the diſeaſed ſtate of their own minds, or their own melancholy, than enabled us to ſee clearly the proximate cauſes of theſe ſingular complaints. I will add too, that the way to tire out the reader, is to attempt to ſay every thing; and that to pretend to explain the immediate cauſes of theſe diſeaſes, would be an abſurdity, equal to that of thoſe who pretend to explain them by the direct action of the ſoul on the body. There are certain things which a man may not be acquainted with, and yet not be ignorant; becauſe it is impoſſible to know them. We, therefore, need not bluſh to be as ignorant as our maſters; when, like them, we have only bad reaſons to give.

I believe it will be acknowledged, that many great men have been of our way of thinking, We do not ſay this, becauſe we are biaſſed by authority; though it claims a certain reſpect, when we really cannot ſee more clearly ourſelves, or when contrary opinions have nothing which can ſupport them. I cannot avoid adding the following quotation, from the illuſtrious **Eller**.

" Without concerning myſelf, as to the various " opinions of authors, on the word *nature*, I will " content myſelf with conſidering the phenomena, " as they preſent themſelves; and as they are foun- " ded, not only on the ſtructure of our body, but on " the functions of its ſeveral parts, ſetting aſide every " vague or ambiguous term.

" They who are acquainted with the ſtructure of " the body, are not ignorant of the intimate connec- " tion there is between the brain, the heart, and the " lungs, as well in the beginning, as in the continu- " ance, of the motion, which conſtitutes the vital " functions, or rather, the life of man.

" It is by this wonderful circulatory motion, that " the heart, by the means of reſpiration, impels the " blood towards the brain, where the ſecretion of a " nervous fluid takes place; and the brain, in its turn, " ſupplies the heart with this fluid; and thus the ac- " tion of the heart is ſupported without interruption,

“ being animated by this conſtant reinforcement of the nervous fluid. Thus it is, that the vital actions are performed; and all this, without any determination on the part of the ſoul, ſo long as the animal lives.

“ From this vital, circulatory motion, which is compoſed of the functions of the heart, lungs, and brain, the functions of the other parts are ſeen to proceed; for by means of the heart's motion, the reſpiration and the influx of the nervous fluid, the blood is carried towards the viſcera, that are deſtined for chylification and ſanguification; and by this continual renewal of blood, the loſſes that our fluids ſuſtain are repaired, and life is ſupported. The functions of the viſcera, deſtined for theſe purpoſes, are named, by phyſiologiſts, the *natural functions*.

“ From theſe conſiderations, it is eaſy to conceive, that, as in the healthy and natural ſtate, the abdominal viſcera, intended for chylification, extract, from the aliment, the chyle neceſſary to form the blood, and afterwards throw off by the inteſtines, the kidneys, and the ſkin, that which is ſuperfluous; ſo, in a diſeaſed ſtate, the morbific principle, which occaſions the diſeaſe, is ſubmitted to the ſame action of theſe viſcera, which ſtill ſubſiſts more or leſs perfectly. And hence this noxious principle, which reſiſts the motion of the fluids, or irritates the ſolids by its acrimony, is likewiſe liable to be changed, and corrected in the ſame manner by the powers of the vital and natural functions, ſo as at length

“ [illegible]

" to be fitted for a critical evacuation through the " channel of ſome of the ſecretions. If this cri" tical evacuation, or the whole of theſe opera" tions, are to be attributed to nature, I think, " that the definition of the word nature, in this " ſenſe, ought to be that of a power, natural to the " human body; which, by means of the circulation " of the blood (and this includes the vital and na" tural functions), is able to prepare and aſſimilate " to our body the nutritious part of our aliment, " and carry off from the maſs of blood, what is " foreign or noxious to it; and this, ſooner or later, " according to the properties and character of the " offending matter.

" Such an explanation ſufficiently proves, that " the Creator has given marks of his extreme Wiſ" dom, in not having ſubmitted to the direction of " our underſtanding and will, our vital and natu" ral functions; leſt man, when borne away by " his paſſions, ſhould ſuſpend theſe functions at " his pleaſure, and thus put a ſtop to his life; and " this would be very eaſy, if theſe functions were " influenced by the ſoul, as is the caſe with the " animal functions." pag. 38-40.

By conſidering nature in this point of view, it is eaſy to ſee how ſuch a definition, may be applied to the diſcoveries of thoſe great maſters in phyſic, who ſeem to have referred her influence to ſuch a mechaniſm.

Is it not a manifeſt abſurdity, to pretend to have any influence on a ſpiritual principle, by means of remedies? and will the obſervations of others, be of any utility to our practice, if we once forget the mechaniſm of our organization? In good truth, I cannot conceive, how men of ſenſe can adopt ſuch frivolous ideas; while the nature of the ſoul, would, of itſelf, be an inexplicable ænigma, without the revelation, which informs us what we are to think of it, according to the reſpectable ſyſtem of religion. But religion has never pretended to form phyſicians; and the learned Sauvages might have been an indifferent metaphyſician, an able calculator, and a good chriſtian, without abuſing Luther, whoſe opinions ought not to affect us, when they are improperly founded.

BOOK III.

Of the Genius for Obſervation, and the Influence it has on Experience.

CHAP. I.

Of the Genius for Obſervation in General.

BY a genius for obſervation, I mean an aptitude for ſeeing each object in its true light, and diſtinguiſhing what there is in it more or leſs uſeful. Obſervation itſelf reſults from the application of ſuch a talent.

As the phenomena of things are infinitely diverſified, their cauſes will be ſo likewiſe. Some of theſe cauſes are derived from the eſſence of the thing itſelf; and theſe are the moſt important ones, becauſe they lead us, at once to the knowledge of the whole. Others ſeem to ariſe from circumſtances that are apparently accidental, and theſe become of importance only by being well connected. Laſtly, there are others, which are ſo little eſſential, that they ſeem to inform us of nothing more than their actual reality, whether it be permanent, or only ſugitive.

An aptitude for obſervation, is, therefore, nothing more than a ready conception of the affinities of things, and of the ſigns which point out to us their order and combination; by noticing this order, and theſe affinities, we form, as it were, without thinking of it, a certain connexion between individual truths. This connexion is ſelt, the moment we perceive ſome affinity in things. It is not poſſible to repreſent to one-ſelf how one thing differs eſſentially from another, without comparing them together; and it is by this compariſon, that we eſtabliſh their connexion.

The perceptions of our ſenſes, would be but of little uſe, if the mind remained in a ſtate of inactivity, when the ſenſes are affected. Even brutes ſeem to imitate us in this reſpect. The ſoul would be rich in images, but very barren in ideas. All our learning would be limited to the knowledge of individual things. We are obliged, as it were, in ſpite of ourſelves, to have a certain activity of mind, whenever we ſee; but this activity ſhould not be barely confined to the perception of individual things, we ought to compare them with every other which may reſemble them; and to learn how to diſtinguiſh, with readineſs, all the marks of reſemblance or diſſemblance.

Our perceptions will be conſtantly individual perceptions, if we do not accuſtom ourſelves to compare many of them at a time, to perceive their general order and connexion, and diſcover, as it were, at one glance, all their varieties; collect what is irregular, diſtinguiſh the differences of each, and connect together thoſe, whoſe affinity will permit it. By ſuch a method, we ſhall be enabled to determine, that ſuch a thing is, or will become ſuch. And this is truly the only channel, through which we can procure the different degrees of clearneſs, extent, and perfection, in our firſt ideas, and in the reflections which follow them.

Be it as it will, the genius for obſervation is derived, in a great meaſure, from a certain natural aptitude; in conſequence of which, we are affected in a lively manner by every thing that preſents itſelf to the mind, and attend equally to every thing that makes itſelf felt in theſe moments. It is from this talent, that is derived a certain freedom of the mind, which enables the ſoul to perceive, diſtinguiſh, and underſtand, readily, every thing that is offered to it; in the ſame manner as good eyes ſee readily, clearly, and determinately, without any one object's being confounded with thoſe which are near it; I ſay, that this delicate feeling gives freedom to the mind, becauſe, not being obliged to ſtop at intermediate objects, or ſenſations, it ſeizes, without heſitation, and at once, all that the ſenſes tranſmit to it, and finds itſelf, at the ſame time, capable of examining all that is intereſting.

The only way to diſcover all that is to be ſound in an object, is to examine it in all its parts, and to decompoſe it until it becomes ſo ſimple, that it cannot be analyſed any farther; but this analyſis has its boundaries. Too fine and delicate a feeling, would lead only to fruitleſs obſervations. Every object has its fixed and determined affinities, beyond which it can no longer afford any compariſon; and therefore, to go beyond theſe bounds, in an analyſis, would be to miſtake or deſtroy the whole.

This too great delicacy, leads us, too often, from things to words. He, who is too minute in his obſervations, without doubt, often ſees things which are not perceived by others; but, at the ſame time, he is often in danger of miſtaking his own ideas for reality. He reſembles, in this, people, who look from the top of a high tower, and who almoſt always direct their eyes to a diſtance, without perceiving that which is near them, and often of greater conſequence. Nothing, therefore, is more averſe to the formation of ideas, than this refinement, which always ſtrikes the imagination, without intereſting the underſtanding. I can allow only Hudibras and Ralpho, to ſubtilize in analyſes ſimilar to thoſe they indulged in, on the internal light of the Puritans; or to the Arabian phyſician, Alkindus, to determine the powers of medicines, by the rules of arithmetic and muſic. What would Ariſtophanes have ſaid, if he had ſeen the moderns analyſing the blood of a flea!

Next to this refined ſeeling we have been ſpeaking of, but fixed within proper bounds, attention may be conſidered as contributing much to the genius of obſervation. It is a lens, which being applied to the different parts of an object, enables us to remark other parts, which we ſhould not diſtinguiſh without its aſſiſtance. The more we exerciſe our attention, the more ſhall we diſcover of every object. A botaniſt ſees in a plant, more than other men do. He obſerves in it, what ought to be ſeen; whereas, they know nothing even of what they do ſee. The ſame thing may be ſaid of a good moraliſt: he knows how to diſtinguiſh man in all the ranks of civil life; and he determines the characters of men, as the botaniſt does thoſe of plants, by marks derived from nature; and often there ſeems to be only a ſlight ſhade, which prevents our confounding them.

On the other hand, that which ſeems to other men to conſtitute an eſſential difference, is, in the eyes of theſe obſervers, ſimply, a variable quantity; which, after many reductions, becomes metamorphoſed, and diſappears, as it were, in their analyſis. It is the conſtant quantity they conſider; but a man muſt have a certain degree of judgment to diſtinguiſh this quantity.

Our attention becomes more perfect, by the advantages we derive from a habit of obſerving. The mind, ſatisfied with its former diſcoveries, becomes always more deſirous of improvement, in proportion, as it extends its knowledge; and it fixes itſelf the more willingly on a new object, in proportion, as thoſe, with which it is already acquainted, have intereſted it. Whereas, the man of ſimple curioſity, who ſeeks to ſee only for the ſake of ſeeing, is ſatisfied, when his eyes have ſlightly paſſed from one object to another. This perſon deſires only to ſay, ‘ I have ‘ ſeen a thing:’ the other aims at knowing it.

The attentive conſideration, which, at the time we repreſent to ourſelves an object, ſeems to occupy all our ſoul, ought to be kept up by the fire of a ſecret paſſion. The powerful deſire of perfecting ourſelves is this fire, and it finds its proper nouriſhment within itſelf; it ſeizes every thing around it, and is never extinguiſhed, even in the moments, when the genius for obſervation, is the leaſt occupied.

Although the love of truth, is, alone, the predominant paſſion of a man, animated by a genius of this kind; it will be right to avoid the being often with men of weak heads. The too frequent converſation of theſe people, ſometimes brings us down to a level with them, when we are the leaſt aware of it. By thinking with them, we inſenſibly accuſtom ourſelves to think as they do. A bad taſte, once rendered familiar, ſoon becomes the only one we have; becauſe we ſee it in every thing.

Men of a narrow genius, often ſee, in certain objects, many things, which a ſuperior genius paſſes over without obſerving them; but theſe things are uſually ſuch as a man of refined genius ſhould avoid ſeeing. This minuteneſs ſeems to be the lot of little minds. Women have, on a thouſand occaſions, a finer eye than the men; but it is for things that are made to be ſeen only by women. A mind, formed for more elevated views, ought to paſs over theſe objects; becauſe it is not deſtined to dwell on ſuch minutiæ. Sometimes, however, it is right to attend to them: but it is by referring every thing to general heads, that thoſe particulars are to be conſidered; and ordinary minds, who are inceſſantly employed about them, never do this. In general, the mechanic ſees no farther than the ends of his fingers and tools.

It follows ſrom what we have ſaid, that the genius for obſervation, is the lot, neither of too lively, nor of too ſlow an underſtanding. They, who have too lively an imagination, or more imagination than judgment, ſee many things at once. The too great vivacity, with which they perceive things, renders their ſenſations a confuſed perception, which gives them no clear, and preciſe idea. This ſeems to be the reaſon why we ſometimes ſee a powerful imagination accompanied by an undetermined and inconſtant taſte; becauſe the imagination, has, at leaſt, as much ſhare in the taſte, as the judgment. On the other hand, they who have much judgment, without imagination, are, in general, longer before they ſee; but they determine, with more preciſion, the merits of an obſervation, although they do not ſo ſoon make it. They will, perhaps, perceive the play, and efforts of the paſſions, more clearly, than a man of too lively a genius, who feels them, without being able to diſtinguiſh them properly: But they will not feel that involuntary determination, which leads the mind to every thing that ſurrounds it, without its ſhewing any thing fixed and diſtinct. Theſe men of ſlow judgment, ſee only that which they have a ſtrong deſire to ſee.

In general, with either too much coolneſs, or too much ardor, we ſee all objects in a contrary ſenſe; We ſee, quickly, and we diſtinguiſh what we ſee, when, with a ſuitable ſhare of imagination, and judgment, the latter directs the other to the object we are to examine. It is certain, that the higheſt degree of genius for obſervation, is to be found in a lively head, that is capable, at the ſame time, of profound and continued attention.

The mind cannot fix itſelf, too long a time, on a ſingle object; becauſe it is naturally active and, of courſe, impatient. Habit will enable a man, who poſſeſſes a talent for obſervation, to ſee things gradually, more and more readily. The beſt obſerver, will ſometimes have occaſion to fix his attention as long on an object, as a man of more confined genius; becauſe, by being more capable of diſtinguiſhing the different parts of the object, he will perceive many things that will eſcape the notice of the other, who contents himſelf with ſeeing that which preſents itſelf; and, therefore, knows leſs.

Although we may gradually acquire a habit of ſeeing, with the mind's eye, as with the eyes of the body; yet, the genius for obſervation, ſometimes appears like a true inſtinct. Without any habitual faculty, there are perſons, who often attach themſelves, at once, to the inſtructive parts of an object, and comprehend them as readily. I was curious one day, to know what opinion a lady of my acquaintance would give me, on an intereſting, hiſtorical picture, by an Italian maſter; the pathetic of which, was not very apparent to common eyes. This lady, was affected at the firſt glance. I required nothing more to be aſſured of her taſte and ſenſibility; and yet, ſhe had no knowledge in painting. It is by this innate feeling, that we ſometimes judge of the works of poets, and painters, when there is not ſo much queſtion of the manner in which they are executed, as of their effects. It is this kind of ſenſibility, which renders the mind as penetrating, as the eyes of a Lieberkühn, who could diſtinguiſh the ſatellites of Jupiter without a glaſs.

Few people obſerve, properly, even when they mean to do it; and the reſult of their obſervation is a mere vapor, which is diſſipated, the moment we inquire of them what they have ſeen, or what they fancied they felt. It would have required the delicacy of Roman ears, to have ſaid to Virgil, that he did not ſpeak like a Roman: and yet, we every day ſee perſons who are in raptures at the ſight of any work of art; at the hearing of a tragedy; or a diſcourſe; or any work of genius. To hear them, it would ſeem as if they felt, and underſtood, even the moſt minute ideas of the author; the leaſt ſhade of the artiſt's or the writer's genius, is a highly finiſhed piece in their eyes. If we proceed to aſk the order and connexion of the thoughts, or of the works, with which they ſeem to be ſo affected, we ſee, at once, that they have given credit to the author for much; but have truly obſerved but little, and have appropriated to themſelves, no part of his art or genius.

It is eaſy to diſcover the genius for obſervation of each individual, by obſerving how he is affected at the theatre; or at the ſight of a picture; or a piece of mechaniſm, *&c.*—One perſon will ſee, at the theatre, only the dreſſes of the actors; another, notices the decorations of the theatre; others attach themſelves to the attitudes, and geſtures of the performers. All theſe ſpectators, directed in their taſte by ſome particular paſſion, go to the theatre to flatter that paſſion; and return home again, with a perſuaſion, that they have well ſeen, and well underſtood the piece. It is in this way, that the generality of men act, in all the circumſtances of their life, and in every thing they ſee.

As invention is peculiar only to true genius, ſo it is true genius, alone, that can judge of the merit of invention. Neither poetry, nor painting, are confined to poets and painters: they are talents, which may be remarked in all men of genius; and conſiſt in that exquiſite ſenſibility, which leads us to the knowledge and imitation of nature. No maſter can be capable of inſtructing him, to whom nature has refuſed this gift. Nicomachus ſaid to a ſpectator, who could diſcover nothing beautiful in a certain picture of Apelles: "*Take, then, my eyes, and ſee.*"

In a picture, which repreſents the actions of men, there is ſomething anterior to the touches of the pencil; to the proportion of the parts; to the diſtribution of light and ſhade, or the harmony of the colours; this ſomething can be ſeen and felt, only by the ſenſibility we have mentioned. They who have read the ſublime reflections of the great Lord Shafteſbury, on the picture of the judgment of Hercules, will acknowledge, that a true painter of hiſtory, ought to poſſeſs this creative talent, in the higheſt degree. There can be no doubt, from the obſervations he has left us in his Characteriſtics, but that the noble writer himſelf poſſeſſed, in a ſuperior manner, this true genius for obſervation.

Ordinary minds, never obſerve this creative genius, in the works of a painter; they attach themſelves, altogether to the mechaniſm of a picture. A ſingle defect, perhaps, will ſtrike them; but they will be incapable of feeling the boldneſs of the execution. A ſervile regularity will pleaſe them; while the maſterly ſtrokes of the pencil, one of which, is often ſufficient to expreſs ſeveral of the paſſions at once, will fail to affect them, and will even eſcape their attention. Hogarth, who perceived that men in general, were attached only to trifles, ſaid, in alluſion to this, that all were competent judges of painting, excepting true connoiſſeurs.

It is, perhaps, as difficult, in theſe days, to judge of the true merits of a picture, or a ſtatue, as it was to the Greeks, and Romans, to execute thoſe maſterly performances, which ſtill excite the wonder of the true connoiſſeur. In the opinion of Winkelmann, the genius of the ancients, is to be felt only by diving deep into their works; whereas, in theſe times, we make a diſplay of all we know and poſſeſs; like a merchant, who is on the verge of bankruptcy. It requires a genius like that of a Moſes, a Winkelmann, or a Sulzer, to determine all the marks of the beautiful, from its loweſt degrees, to its moſt ſublime heights, in the works of invention.

The genius for obſervation, carried to the higheſt degree in the arts, borders on the marvellous. Raphael, was at firſt, only a very moderate painter, till he got, one day, by ſtealth, into the chapel of Pope Sixtus; and there, the moment he beheld the repreſentation of the Eternal Father, as painted by the hand of the divine Michael Angelo he was ſo forcibly ſtruck with the grandeur of the painter's idea, that he at once felt and adopted the whole of it; and, attaining, afterwards, the ſame height of perfection, gave the ſame degree of majeſty, and divinity, to his own repreſentations of the Eternal Father, which had, till that time, been very imperfect ones.

Theſe ſame reflections, may be applied to the genius for obſervation, that is required in ſocial life. I often have occaſion to remark, that a man, who cannot feel the powers of a moral picture, or the pencil of Hogarth, is equally inſenſible to the characters of Theophraſtus, or La Bruyere.

It is this ſame feeling, which ſometimes marks out, in a young man, the firſt dawning of the moſt ſublime talents. This ſenſibility, is to the human mind, what the principle, which forms, as it were, the ſoul of vegetation, is to plants. In proportion, as its energy unfolds itſelf, theſe dawnings acquire additional luſtre; and, at length appear, with all the ſplendor, which may be expected from them; but it requires no little delicacy of ſentiment; to perceive theſe firſt ſigns of genius.

Dubos lays it down as a mark of genius, in young people, if, in the ordinary ſtudies of youth, they remain behind hand; while they advance rapidly in any particular art, for which they ſeem to have been deſtined by nature. If ſo many fine geniuſſes are neglected by their maſters, it is becauſe thoſe maſters, who have learned rather to ſpeak, than to think, are, in general, incapable of diſcovering the temper of a genius, which is ſo ſuperior to their own. Accuſtomed to a train of liſe, that is purely mechanical, never will they ſuſpect, that a machine, can be animated by any other genius, than by that which they imagine themſelves to poſſeſs, and which is always, in their opinion, the moſt accompliſhed. So, that a young perſon, who does not appear to them to have the ſame turn of mind, will be conſidered as a ſtupid fellow, who merits no attention. No man ever knew better how to diſcern, and give an advantageous turn to talents, than Mecenas and Colbert; but theſe great men were not indebted to ſuch formal ſophiſts, for this happy diſcernment. A Kleinjogg, ornamented humanity, without being attended to; till a Hirtzel ſaw, and pointed out his merit, and thus rendered him immortal.

There are people of a certain ſtamp, who ſee always in a falſe light. If they fix their attention on children, they miſtake little follies and impertinence, for the marks of a future grandeur of mind. A readineſs to calumniate for judgment; great talking, for wit; and hypocriſy, for models of future probity, and religion. Men of clear and cool heads, but who have had a ſervile education, are too apt to conſider a deciſive turn for the great, the beautiful, and the ſublime, as mere giddineſs, and eccentricity. A love of independence, and a turn for ambition, together with a contempt for every thing that is low, is, in their eyes, an unpardonable pride. Stupid people, miſtake all this for folly. Every one imagines he is right in his opinion; becauſe every man ſees aſter his own manner. Pythagoras, ſaid an ancient philoſopher, looks at the ſun very differently from Anaxagoras. The former carries his eyes to it, like a God; while the latter looks up to it, as unfeelingly as a ſtone would do.

Others ſee only half a thing; and therefore, never ſee enough. They confine themſelves to particular parts, and thus often miſs the whole. The Madona of Raphael, would, in the eyes of theſe people, be a pretty face; Monteſquieu, a wit; and Haller, a good diſſecter, and a great botaniſt; but nothing more.

The talent for obſervation, is as valuable in moral life, as in the arts. Socrates poſſeſſed a genius for obſerving men in ſo high a degree, that, on the moſt trying occaſions, he immediately formed in his mind, a ready, and pretty juſt combination of ideas, which enabled him to foretell what might be expected from any man. He formed his opinion of men, ſays Diderot, as men do of works of genius; by their feeling.

Theory, which is ſo deſpiſed by the vulgar, and ſo often attacked by men of ſhallow erudition, is, or ought to be, founded wholly on obſervations made with ſuch a genius; and which, in a thouſand circumſtances, will be ſuperior to a blind practice. Even in morality, theory will be found to be true, only as its operations are founded on the analyſis of the human heart. Although the generality of mankind, are influenced leſs by reflection, than by habit; and although they do a thing, only becauſe they have ſeen it done, or have been told to do it: there is nevertheleſs, a leading principle, which is pretty generally to be diſtinguiſhed in all their actions. This principle, becomes different, in different ſituations; and it is, therefore, by theſe, that it is to be eſtimated. At one time, it is convenience; at another, ſelf-love; now and then, envy; ſometimes, hatred; and on ſome occaſions, though rarely, it will be friendſhip. Each of theſe paſſions will predominate in its turn. Hiſtory, to the eye of the philoſopher, is nothing more than a picture of all theſe circumſtances

The difference we obſerve between actions and words, leads directly to the infinite difference there is between what a man really is, and what he wiſhes to appear to be. We muſt learn to know things from their phenomena, that we may be, one day or other, enabled to foreſee phenomena, from what we know of the things themſelves. In the ſame manner, we ſhould judge of the hearts of men, by their actions, that we may learn to foreſee their actions, by our knowledge of the heart. Each action has its leading cauſe, as we have juſt now ſeen. It is by frequently obſerving the actors, their ideas, their paſſions, their virtues, their views, their intereſts, the different ſituations, in which they are placed; and, by diſtinguiſhing all theſe with propriety, diſcovering the affinities of each, and then combining ſuch of them as allow of being connected together, that we are enabled to ſpecify theſe cauſes, and explain to ourſelves, theſe actions. It ſometimes happens, that ſociety is long a dupe to ſome perſon, whoſe true diſpoſition is known only to ſome ſkilful obſerver, who ſees him, and ſays nothing; at length, the actor himſelf drops the maſk, and appears ſuch as he really is, to the world. It is remarkable, that it is often by benevolence, that a man diſguiſes himſelf the moſt ſecurely, and during the greateſt length of time.

Hiſtory, in its principal point of view, is one of the moſt advantageous means of increaſing our moral knowledge. If we turn over the hiſtory of former ages, it ſhould be with a view to form a better knowledge of our contemporaries, and to judge more ſoundly of their diſpoſition and conduct. As we ſee amongſt the men with whom we live only an infinitely ſmall part of the world, it is hiſtory only which can lead us to the knowledge of the world at large; and by this method, we avoid forming our judgement of the whole, from individuals; or of nations, from one. We conſider as generally true, and at the ſame time as peculiar to man, only that which has been regarded as ſuch in all ages, under the influence of a multiplicity of infinite cauſes. Hence it is, that the compariſon of things paſt with things preſent, is one of the beſt ways of obſerving men becauſe it teaches us to know them immediately by their actions.

But there are few perſons who are capable of being benefited by the reading of hiſtory. This is owing firſt, to the errors of hiſtorians themſelves. Credulity, party ſpirit, and above all, a want of that truly philoſophical genius, which every writer ought to poſſeſs, conceal from, and cheat us, as it were, of the greater part of the events they recite. Facts are almoſt always leſs intereſting to us, than their cauſes; and, it is in this point, in which almoſt all writers have been deficient. In attempting to unveil theſe cauſes, they have always been guided too much by their imagination.

Livy was deſtined by nature for an orator; he was determined to be an hiſtorian. Polybius, who ſaw ſo clearly into the actions of Men, and who was ſo attentive to the cauſes of events, as well as their connexion; and, ſo inſtructed in every thing, that could be uſeful to him as an hiſtorian, was, however, not pleaſing to Livy, who conſtantly alters his expreſſions when he has occaſion to cite him.

To write hiſtory well, would ſeem to require the philoſophical genius, and the ſtile of Xenophon; the deſcriptive pen of Salluſt, and the ſincerity of De Thou.

Secondly, few perſons profit by reading hiſtory, for want of the neceſſary penetration. Without this, it will be impoſſible for any one to trace the deſigns, the means, the events, and their conſequences; or to diſtinguiſh what is true, from what is only probable; and, the influence of the minuteſt things, on great ones. Again, no man, who is void of this penetration, can ſurely perceive, in any circumſtance, that appears to be but of little conſequence in itſelf, the firſt cauſe of the enſlaving, or the freedom of a ſtate, or of its riſe or fall: nor will he be able to trace the progreſs of the arts and ſciences, and commerce, and religion; and, to determine, how they were intereſting to, and mutually aſſiſted, or otherwiſe affected by each other.

If it were required only to learn from hiſtory, that in ſuch and ſuch nations, there prevail certain manners,

ners, laws, religion, commerce, &c. he, who has reſided in thoſe nations, knows all this, and yet is not the more learned on that account. It is to the ſpirit of all theſe different things, that we muſt direct our attention. We ſhould aim at ſeeing the origin of the laws, in the real intereſts of a ſtate; in the character of its inhabitants; and, in the influence, which other nations may have over them. Certain uſages and laws, may render one country very happy, although the ſame laws and uſages are by no means admiſſible in another.

Revolutions in a ſtate, have conſtantly been determined by ſome internal or external cauſes. It is to theſe cauſes, rather than to the revolutions themſelves, that we are to direct our attention. We ſhould particularly inquire, why certain people are very happy in a country, the ancient inhabitants of which, were in the moſt abject ſlavery. But, without a genius for obſervation, will all this knowledge be derived from hiſtory? No: and this is the reaſon, why ſo few have read it, like Monteſquieu; or written it, like Hume.

Without a talent for obſervation, the politician will always fail in his deſigns. Never will he acquire a juſt theory of the happineſs of any ſtate, if the moſt exact obſervations have not deeply imprinted on his mind, the character of the people; the means of executing any plans; and the obſtacles that may ariſe, together with the cauſes and effects of theſe ſame obſtacles. To know all that can happen to a ſtate, *ad infinitum*; and to know, at the ſame time, how its happineſs is to be ſupported; how to obviate its internal evils; to put a ſtop to thoſe which are manifeſt; to palliate and conceal thoſe which are incurable; and, above all, to know how to ſeize the proper time, and meaſure, and ſtrength, of the remedies employed; all this requires a penetration, far above that of ordinary politicians, who uſually content themſelves with treading in the ſteps of their predeceſſors. The ſtateſman, who knows not the ſtrength and the weakneſs of the human heart, rather from juſt analyſes, than from hypotheſes, founded on paſſions, badly conceived, and badly underſtood, will never be able to diſcover the deſigns of others, ſo as to convert their intentions to his own purpoſes. He will be equally ignorant whether a thing ought to be done publicly or ſecretly; he will adopt vile artifices, in preference to more dexterous meaſures; and, by ſeeing every thing, through a falſe medium, will do every thing badly or imperfectly; and will, on all occaſions, miſtake the true intereſts of the people.

It is on this art of ſeeing things clearly and readily, that the commander of an army, founds all his ſucceſs. To make advantageous marches, he muſt begin, by obſerving all the advantages, and diſadvantages, of a country; he muſt next combine together, the time, the place, the number and condition of his troops, proviſions, &c. and likewiſe the ſituation of the enemy, with reſpect to all theſe circumſtances: If he is to pitch his camp, or to chuſe a convenient ſpot for an attack; a knowledge of the moſt minute particulars, becomes ſo eſſential to him, that a brook, a hedge, or a ditch, will be liable, very often, to decide his defeat, or his victory.

He has not only his army to command, but likewiſe its marches to plan and direct; to inform himſelf of the enemy's motions; to foreſee ambuſcades, &c. On all theſe things, his ſucceſs intimately depends. If he omits a ſingle circumſtance, in the heat of action, perhaps his army is routed. In the midſt of all theſe difficulties, however, he ought to obſerve and direct every thing with coolneſs and tranquility. This maſterly eye, which ſees every thing at once, has, on many occaſions, decided, not only a victory, but the fate of nations.

Hitherto, I have ſpoken of the genius for obſervation, almoſt wholly in a philoſophical ſtrain; becauſe I could not poſſibly explain myſelf clearly on an abſtracted term, without tracing the philoſophical principles, which might lead to its true ſenſe. Rouſſeau ſomewhere ſays, that it is a pity, ſo much philoſophy ſhould be required, to be enabled to obſerve once, what is ſeen every day.—Let us now finiſh this digreſſion, and return to phyſic.

Science is the clue, by which the phyſician is enabled to penetrate into the labyrinth of nature. A learned phyſician is informed, before-hand, of the country he is about to viſit; whereas, the ignorant empiric knows not even the ways which lead to it. The former, therefore, may be ſaid to find nature open to his inquiries; while the latter is unable to ſay what he is to ſeek for.

No part of knowledge, will be found to be more advantageous in directing the eye of the obſerver, in his reſearches, than that of the hiſtory of phyſic. By hiſtory, here, I mean, what the beſt obſervers, and above all, Hippocrates, have left us, on the ſigns and ſymptoms of diſeaſes. This knowledge, when combined with the other principles, will always inſtruct a phyſician on the phenomena of diſeaſes, and on their connexion with, and dependence on, each other. He will ſee, by this method, the *phyſiognomy* of each diſeaſe; not, indeed, always immediately by the eyes of his body, ſo much as by thoſe of his mind.

It is in this way, therefore, that a phyſician, guided by theſe two different lights; that is to ſay, by the principles we have eſtabliſhed relating to cauſes and effects; and by the hiſtorical part, may, with confidence, preſent himſelf at the bed-ſide of the ſick, and diſcover phenomena, which will eſcape the notice of a leſs enlightened man.

Attention, is, without doubt, a painful taſk, when we do not poſſeſs, in a high degree, the delicate feeling, and the fine maſterly eye, which we have ſo often mentioned, as tending ſo much to abridge all the operations of the underſtanding; but, by the means of habit, this kind of readineſs may be improved.

There are ſome people, who conſider a phyſician as an attentive man, if he often viſits his patient, and frequently ſtirs over, and examines, every thing that his patient voids; or if he enters into a long and learned harangue with the nurſe, and ſtanders-by, on the ſtools, the urine, the pulſe, &c. of the patient: but neither of theſe is the ſort of attention, which diſtinguiſhes the true obſerver. All theſe circumſtances may be very intereſting on certain occaſions; but, in general, the eye is required leſs than the mind. He who is incapable of obſerving the moral man, will never be able to know diſeaſes. The ſame talent, which leads us to diſtinguiſh the diſeaſes of the mind, brings us acquainted likewiſe, with thoſe of the body: both the one and the other have their peculiar ſigns, and all but the man of true knowledge, will be liable to miſtake them.

The true phyſician obſerves that which the empiric does not aim at ſeeing; the phyſician ought to diſcover all the circumſtances of a diſeaſe, through the veil which covers them; he ought to know how to ſimplify them in their complication; to diſtinguiſh what is conſtant, from that which is variable; and the eſſential part of the diſeaſe, from that which is purely accidental: he ought, likewiſe, to perceive, how a diſeaſe became ſuch as it is; and how all the circumſtances attending it, from being only poſſible, came to be realized. All this, therefore, will depend on the penetration of the obſerver; and it is what he will not be always able to determine, from the ſigns and ſymptoms of the diſeaſe.

The empiric, on the other hand, requires neither this talent for obſervation, nor the hiſtory of diſeaſes. As he goes, leſs with a view to obſerve what really is, than what he wiſhes to ſee; and as the diſeaſe is, in general, to be determined by the remedy he applies, he has occaſion to diſtinguiſh neither the poſſible, nor the real, nor the probable, nor the true, nor the falſe. All is true, according to him; becauſe he inſiſts that the diſeaſe is ſuch as he ſays it is. I have very lately ſeen an example of this abominable practice: I was deſired to viſit a little boy, who had been ill during ſeveral months: I found him in bed, but without being able to lie on his back, on account of a blow, which he had received there. Having fully conſidered the ſtate of the patient, I pronounced the diſeaſe to be the Rickets; and to this I adapted a method of cure. He was intruſted to a ſurgeon, who confined himſelf wholly to the application of ſome uſeleſs cataplaſms, on a ſwelling which was felt in the loins. I repeated my advice; but the child's friends, not ſatisfied with this, called in a very ignorant fellow, who confidently aſſerted, that the complaint aroſe altogether from a vertebra's being tumefied, or diſplaced by the blow. He treated the little patient with ſo much violence, by attempting to bring about what he ſtiled the reduction of the vertebra, that he almoſt occaſioned the death of the child. The impoſtor continued to be employed, till he compleatly expoſed his own ignorance. This example will ſuffice: it clearly proves, that I have done well to ſay, that, without a true genius for obſervation, a man may ſee a great number of patients, and yet perceive but little. A real diſeaſe, is ſometimes a long time before it ſhews itſelf. A ſlight accident very often determines it: but ſurely nothing can be more abſurd, than to conſider this accident, even though it ſhould be a very alarming one, as the diſeaſe itſelf, which, at the moſt, is complicated with the effects of this accident. The caſe I have juſt related, may be applied to what I now ſay. After many inquiries, concerning the ſtate of the child, previous to this attack, concerning his diſeaſes, inclinations, and mode of life, I learnt from his mother, that, long before he received this blow, he had frequently complained of pains along the ſpine, and of laſſitude, and that ſhe herſelf had been ſubject to *fluor albus*, both before and after the birth of this child :—her two daughters were likewiſe ſubject to the ſame complaint. It is well known, that the moſt experienced obſervers have proved to us, the bad effects of this complaint; and that girls, ſometimes, even bring it with them into the world. All this afforded ſufficient preſumptive proof of the morbid ſtate of the lymph in the child; and this, together with the pains in his back, and his ſenſe of laſſitude, led me to determine, without heſitation, the nature of his complaint. The blow might, and probably did, accelerate the progreſs of the diſeaſe; but this blow was to be conſidered only as a particular accident; and ſo far from viewing it as the principal diſeaſe, no curative indication could be drawn from it.

I did not, however, omit to attend to the effects of the blow. I related to the patient's friends, what I had myſelf ſeen in diſſecting a man-ſervant, who died of a ſimilar complaint; and I mentioned a caſe of the ſame nature, from De Haen. I compared all theſe different circumſtances together, and imagine, that my opinion was founded on ſound practice :—But it was not to true obſervers I was talking.

The unequal diſtribution of the genius for obſervation, is the ſource of diſputes among phyſicians; and theſe diſputes, are a pretext, with ſome people, for accuſing the art itſelf. There is little to be gained by ſlander, ſays Pindar: it ſhould be conſidered, however, that in this reſpect, its effects are of very great conſequence. Hippocrates, long ago, complained, that a contempt was thrown on the art itſelf, which ought only to be applied to the ignorant pretenders to it.

Every man ſees things in his own way; but if every one who obſerves, would reaſon from nature, few would ſee after their own manner; becauſe we ſhould then ſee things as we ought to do. Not that a talent for obſervation, ſuppoſes very long reaſonings. Nature, who ought to be our guide on theſe occaſions, takes always the ſhorteſt route in her operations; and we ſhould, therefore, follow her example in our reaſoning. Hoffmann was in the right, to ſay, that to give up our feelings, and devote ourſelves wholly to reaſoning, would be a blind ſtupidity. No reaſoning, that is not founded on nature, ought ever to be admitted. It is even required in obſervation, that an hypotheſis ſhould be founded, not ſo much on the general laws of our organization, and the general phenomena of nature, as on the actual determination, and particular conditions, which have been able to render them ſuch; otherwiſe, it is impoſſible to avoid error, and, of courſe, contempt. When Plato reproached ignorant people with caring but little for reaſoning and inſtruction, he certainly did not mean, that reaſoning ſhould be the law of obſervation: it is not till after all the phenomena have been noticed, that he allows the phyſician to reaſon on the method of cure; every diſeaſe, ſays he, ought to be treated according to its peculiar and particular determinations.

There are certain practitioners, who are more blameable than the empirics. The name and the profeſſion of a phyſician, entitle a man, in ſome meaſure, to the confidence of the public. The perſons I allude to, have only this title for all their knowledge. They go in boldly, loaded with receipts, and ſeem to conſole themſelves, with ſaying, ſuch a one knew no more than I do, and yet he was very fortunate in his practice. Nor does their reaſoning extend farther. It is founded neither on nature nor experience; indeed it may be ſaid, that theſe people never reaſon. All their ability, ſeems to conſiſt in copying formulæ. A girl comes to them with chloroſis, and they give her ſome cooling medicine; becauſe there is fever. A pregnant woman, complains of a retention of urine, and they give a diuretic: they are ignorant, that it is the fœtus which preſſes on the neck of the bladder, and that a diuretic may be fatal in ſuch a caſe. Theſe people, not only do not perceive the chain of circumſtances, that occaſion a diſeaſe, but they are ſtrangers to every one of them.

Shall I ſay what I think? The phyſician who ſees all the circumſtances of a diſeaſe; he who ſees only a part of them, and another who ſees none of them, or rather, ſees only his own prejudices, muſt neceſſarily be of different opinions; and yet they will all ſwear by their Experience. It is in this manner, that the moſt oppoſite opinions are proved. The inſenſibility of the tendons and perioſteum, has been diſputed from Moſcow, even to Raguſa: all appealed to Experience: at length, it was concluded that the tendons were ſenſible; becauſe Haller was a Lutheran.

A man defends, even to his lateſt moments, that which he thinks he has ſeen, without aſking himſelf whether he was capable of ſeeing. A drunken man, ſwears that every thing dances around him: a ſuperſtitious man, believes in magic: a little mind, dreads apparitions: all theſe ſpeak from Experience, fancying, that it is from Experience they have learned all this.

The nature of diſeaſes, the art of curing, the virtues of remedies, all theſe are equally decided, by the Experience of him, who knows them, and of him who does not. The phyſician, who has diſcovered the ways of nature, and who follows her, in them, every day; and the old nurſe, who is directed by this phyſician, both appeal alike to their Experience, and the former very properly. But, ought any one to appeal to his Experience, who does not poſſeſs a proper talent for obſervation? Is it by a blind practice, with a few receipts, and many prejudices, that we ſee nature?

What may not a patient be expected to think, who ſees ſeveral phyſicians around his bed, contradicting each other in their opinions; and yet, all equally appealing to their Experience.—This is not a rare caſe. Will ſuch an unhappy patient ever believe, that phyſic is an art, which has its principles, and which ſuppoſes ſo much genius? for it is certain, that a true genius is required, to form a good phyſician. He ſhould reflect, however, that of thoſe who are around his bed, not one is, perhaps, a man of this ſort.

Impatient in their ſufferings, men generally require their phyſicians to ſpeak and act with certainty;

tainty; and there is certainty in no part of human knowledge, if we except the pure mathematics. In general, we may ſay, that all that the ſenſes aſſure us of, all that follows from a juſt induction, and all that we ſee immediately in our ideas, is true. We are acquainted with effects with ſufficient certainty, it is the cauſes that embarraſs us: even in theſe, however, we are not deceived, if the effects of any cauſe are ſo known to us beforehand, that it may be determined by them. But the number of thoſe practitioners is very ſmall, who are able to aſcertain the affinities between theſe effects and their cauſes, and who, at the ſame time, have a talent for applying to them, principles, drawn from the obſervations of great maſters; and all this, becauſe every one conceives his own opinion to be the beſt.

Diderot thinks it is ridiculous to ſay, '*the more* '*heads, the better counſel*'; becauſe nothing is more common than heads; and nothing ſo unuſual as good advice. Was Adrian to be blamed, for cauſing to be inſcribed on his tomb-ſtone, '*It was the great number* '*of phyſicians that killed the emperor*'?

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CHAP. II.

Of the Impediments to the Talent for Obſervation.

THE fineſt talent for obſervation, may be confined, diſturbed, deceived, weakened; and, in ſhort, affected in different ways. Obſervation requires a free and tranquil mind, wholly devoted, however, to its object.

The mind muſt be diveſted of all paſſion, and prejudice, if we wiſh to take the poſition, in which we may diſcover the truth. We muſt likewiſe avoid the paſſions and prejudices of others, as much as our own. A man, who is fettered by prejudice, ſees, even with the beſt talent for obſerving, only what he is willing to ſee, or what is pointed out to him by others. This intereſted, and uncandid ſearch after truth, is the great ſource of all the falſe opinions that prevail amongſt men, and of all the errors which diſhonour them.

The moſt trifling impediments of this kind, disfigure every object; becauſe the eyes ſee leſs than the paſſions themſelves do. It has been ſaid, that women read better in our phyſiognomies, than in their own: but, perhaps, no woman will read the phyſiognomy of an ugly man. It is in this way, that moſt objects aſſume, in the eye of the obſerver, a colour and character which agree beſt with his predominant paſſion. Hypochondriacal patients, ſee every thing with a gloomy eye; others, are admirers, and conſider every thing as grand and magnificent. Some, there are, again, who ſee faults in every thing, and theſe are in the greateſt number: few people are affected by the beautiful; it is the brilliant that moſt commonly ſtrikes them, and this, becauſe a falſe taſte is ſo prevalent. It is this falſe taſte, which, in the opinion of Lord Shafteſbury, throws itſelf upon that which immediately ſtrikes the ſenſes, rather than on that which might be likely to intereſt the underſtanding, after a proper examination: whereas, a perſon, who poſſeſſes a true taſte drawn from nature; and, perceiving what he feels within himſelf, is at once ſtruck with the noble ſimplicity, and even dignity of a truly great object: like a creative ſtatuary, who ſees, in half a line of Homer, the ſtatue of Jupiter, which he goes and executes, from this hint.

The execrable Janſeniſt, who wrote againſt the ſpirit of laws, thought he had done enough to overthrow the credit of the author, by reproaching him with having ſaid nothing in his work, on the ſubjects of original ſin and grace. Monteſquieu was ſatisfied with anſwering, that a man, who aims at attacking all the parts of a book, and who has only one predominant idea, can be compared only to the village-curate, who was ſhewn the moon, through a teleſcope; and, who ſaw in the glaſs, only the ſteeple of his own pariſh-church.

The paſſions ſeem to clog the genius for obſervation, even more than our prejudices. Theſe laſt, do, ſometimes, ſtill leave ſome avenues open to precept and example. There is, perhaps, no prejudice, which has ſufficient power, ſo to fix the mind on an object, that it ſhall always be ſeen in the ſame point of view. A reflection, following cloſe after ſome favourable event, opens the eyes, and the phantom diſappears; and this the more readily, if the prejudice does not depend on ſomething that is myſterious. This is what we ſee happen every day. But the paſſions block up, as it were, all the avenues to the ſoul; they are deeply rooted in the heart, and ſeem to poſſeſs the whole man. Reſiſtance, and the ordinary impediments, ſerve only to ſtrengthen the influence of a paſſion, by irritating it.

As every paſſion, without exception, is conſtantly founded on a blind love of one-ſelf, it is much more difficult to renounce this, than to give up a prejudice. To throw off the latter, a man need only ſay, "*I am miſtaken*": whereas, to lay aſide a paſſion, he muſt neceſſarily humiliate himſelf. Every prejudice, however, is liable to become a paſſion, eſpecially if it is authorized by example and time; becauſe, man in general, is rather an animal of habit, than a being that reflects. But when once the prejudices are eſtabliſhed into paſſions, a man becomes inacceſſible. This is the reaſon, why men are ſo capable of ſerving only themſelves, and their own actions. Even he, who is the beſt informed, and who ſees with preciſion, on a thouſand occaſions, is diſabled from doing juſtice to the genius and opinions of others, the moment he becomes ſubject to theſe imperious maſters. A ſecret jealouſy, hides from him every thing that is good, and ſolid, in his friends; and he liſtens to them, only to cenſure their opinions, and follow his own. A thouſand events, capable of humiliating him, will not afford him a ſingle precept.

The more our paſſions influence our judgment, the leſs capable are we of giving our advice. It appears to me, as the height of the art of obſerving mankind, when any one defines to me, the character of a great poet, or of a great philoſopher, who has opened ſome new ſources of knowledge. There are no men, who are obſerved, and judged, in more oppoſite ways, than theſe. Some extol them above all thoſe who have gone before them; while others think, they are fit ſubjects for Bedlam. In this diverſity of opinion, every one ſays, '*I ſpeak impartially*'.

It muſt, indeed, be allowed, that we never ſee better, or with more eaſe, than when a thing intereſts our attention. Rouſſeau ſeems to be of this opinion, when he ſays, that the moſt learned philoſophers, who have paſſed their whole life in ſtudying the human heart, know leſs of the ſigns of love, than the weakeſt female, who happens to be in love; and this is true. The philoſopher, in this caſe, judges only from what he imagines he ought to think; and the woman judges by her feeling.

Madame Staal, who had been in the Baſtille; and, of courſe, ſpoke from Experience, has obſerved, that perſons, who are confined, are, of all others, the moſt attentive obſervers, on account of their great leiſure, and their want of diſtraction; but, above all, from the ſtrong deſire they have to notice every thing that is new. They attend, even to the moſt minute things, and ſeem to be all ears and eyes; and, however cloſely they may be confined, they contrive to notice what is going on; becauſe, they imagine themſelves to be intereſted in the leaſt motion, and they, therefore, follow it to the end. The hatred one ſometimes conceives for the human race, in theſe miſerable abodes, affords to many perſons an opportunity of obſerving man, much better than can be done in ſociety at large. The eye is no longer open to ſeduction; the heart explains itſelf more liberally; and we ſee man in his true light. Tertullian reproached Herophilus, *with having hated man, that he might learn to know him*; becauſe he had diſſected living criminals. There are many circumſtances, in which this aſſertion of Tertullian will be found to be true.

The deſire of ſeeing a thing, ſometimes occaſions us to ſee it every where. I know ſeveral phyſicians, who ſee only certain diſeaſes; one of theſe, who is a celebrated practitioner, and who has an obſtructed liver, fancies he diſcovers a ſimilar complaint in all his patients; and it is one particular remedy that he conſtantly preſcribes; becauſe he has found it uſeful to himſelf. Another is in love with Theriaca; probably, becauſe it confines him to his bed, ſometimes, for three months. Without this ſame Theriaca, if we are to believe him, he would, long ago, have been overcome by his complaints; '*but with this*, ſays he, '*I can maſter them*'. I know a third, who is confined three or four months, every year, with the gout; and yet, he not only denies that he has any thing gouty about him, but contends, upon all occaſions, that he never had ſo much as the rheumatiſm. This phyſician, and all his patients after him, if we are to believe him, are ſubject to an affection of the nervous ſyſtem; and he employs narcotics, on all occaſions.

We every day ſee nature explained by hypotheſes. There are perſons, who ſet out with eſtabliſhing arbitrary principles, and then conclude, that every thing is to be reduced to theſe laws or rules. Theſe principles, however, produce the ſame effect in phyſic, as in hiſtory. They are, ſometimes, uſhered in, with an air of myſtery, which very often paſſes with the multitude for depth of genius; and obſervations will very often be ſuppoſed to be of importance, becauſe they cannot be underſtood. Nothing is ſo eaſy, as to favor every prejudice, by means of this obſcurity; and it is only the penetrating eye of true genius, that can diſtinguiſh the errors, and uncertainty of theſe opinions, and perceive, at the ſame time, how all the phenomena of nature, have been modified for their ſupport. Experience, by theſe means, is deprived of all her rights: her deciſions are improperly interpreted; and, ſhe is either no longer attended to, or at leaſt, is paſſed by in ſilence; becauſe theſe people, inſtead of ſpeaking from facts, ſacrifice nature to hypotheſes. It was in this way, that Hutchinſon, who was a man of great abilities in metaphyſics, and divinity, undertook, without any knowledge of anatomy, to write a treatiſe on phyſiology, and to change man into a vapour machine. (p)

(p) The work here alluded to, is entitled, '*The Oeconomy of 'the Human Frame, upon the Principles of the New Philoſophy*'. London, I believe I may venture to aſſert, here, without being ſaid to ſpeak improperly, that a great number of phyſicians have been attacked with this epidemic. Some of them, make their obſervations in their ſtudies, and give us only their dreams. This has been ſaid of Riverius ; and yet, I know a celebrated phyſician, who reſpects his obſervations ſo much, that he would not be perſuaded, one day, to alter one of his preſcriptions, although it ſeemed to be very clear, that the fault, he ſuſpected, was an error of the preſs. The ſame thing is ſaid, in theſe days, of the celebrated Storck: is the reproach well founded?

There are others, who are ſo attached to the rules they have adopted for their own health, that they preſcribe no others to their patients. A Stahlian, thinks only of his ſoul, and his hemorrhoids : like a fond lover, who ſees only his miſtreſs.

I will allow, that hypotheſes in phyſic, when employed with genius, are ſometimes uſeful, and even neceſſary. Every time that the proximate cauſe of a diſeaſe, is unknown to us, we are obliged to undertake the cure in hypotheſis : but then, this hypotheſis ſhould be founded on the preſent and preceding ſymptoms of the diſeaſe, and other circumſtances; and all theſe, being compared with the animal œconomy, the cauſes of the diſeaſe may be eſtabliſhed with a certain degree of probability.

London, 1739, 8vo. The author of it, ſeems to have been wholly unacquainted with anatomy.

In general, we ſet out with explaining cauſes, from ſyſtems; and this is too often, the ſource of the impediments we meet with, in the treatment of a diſeaſe.

The chymical ſect, which ſucceeded to that of the Arabians, ſerved as a model to thoſe of the moderns, who undertook to cure all acute diſeaſes, by ſweat. Theſe people had a particular antidote for each diſeaſe; they gave cordials in all fevers, and rejected phlebotomy, cooling remedies, and clyſters. This practice has been ſufficiently exploded in theſe times, and therefore requires but little to be ſaid againſt it, here. There are, ſtill, however, too many people, who adopt this deſtructive method.—It would be no exaggeration, to ſay, that more people have periſhed by it, in theſmall-pox, only, than were deſtroyed, formerly, by the wars of Alexander.

Boerhaave ſays it is wonderful, and even ſhameful, to ſee the follies the chymiſts have adopted from the fables, ſuperſtition, ignorance, and falſhood, which abound in the writings of Paracelſus, and Van Helmont, and their followers. Nobody, ſurely, was ever leſs capable of obſerving diſeaſes, than thoſe dreamers; becauſe they had only falſe and arbitrary ideas of the animal œconomy.

It is equally abſurd, to attempt to explain every diſeaſe, by the known laws of nature, and the animal œconomy. There is often ſomething ſo particular in diſeaſes, eſpecially in epidemics, that the moſt experienced phyſician is obliged to confeſs, that he ſees nothing with certainty. It was from not knowing this principle, that ſome phyſicians have pretended, that the plague (q) could not be communicated. A populous city, became the tomb of almoſt all its inhabitants, before they were convinced, that the diſeaſe was contagious.

The genius for obſervation, ſuffers exceedingly, from ſuperſtition. I do not ſpeak, here, of religious ſuperſtition, becauſe that concerns only divines; I mean, only medical ſuperſtition; and this conſiſts in a notion, that natural effects may be produced, by wonderful, and ſupernatural cauſes; and that effects, which are abſolutely impoſſible, can be produced, by abſurd cauſes. If a propoſition is ſupported, by a teſtimony, worthy of faith, the opinion we form of it, is called, *belief*. If we believe any propoſition, on the teſtimony of a viſionary, it is ſuperſtition.

Under the influence of ſuperſtition, the followers, and ſupporters, of the moſt abſurd doctrines, are able to raiſe their ſtupid heads, in oppoſition to truth. The moment we think every thing poſſible, that is ſupernatural, and wonderful, we believe in all that is repugnant to nature.

I call every thing ſupernatural, that cannot be proved by reaſon, and that neither appears to be probable,

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(q) Dr. Z. ſeems to allude to the plague, at Marſeilles, in 1720: The ravages it made, are well known. M. M. Chicoineau, Verney, Soulier, and ſome other writers at that time, contended that it was not contagious.

bable, nor poſſible. I call marvellous, every thing that is deſtitute of proofs; and at the ſame time, ſeemingly repugnant to the laws of the phyſical and moral world. A very ſenſible divine, has illuſtrated this matter, by a familiar example. If any one attributes, ſays he, to a purgative plant, a virtue, that it does not poſſeſs, he is deceived; but this does not ſuppoſe him to be ſuperſtitious; becauſe a purgative plant has nothing in it, either marvellous, or wonderful: but if any one ſhould fancy, that a man, by carrying this plant about with him, would become inviſible, or invulnerable, this opinion would be no longer a ſimple error, but a ſuperſtition. It is this ſuperſtition which has attributed to amulets many effects, which the preſent age know to be ridiculous; it is incredible, however, how much the human mind has given into this abuſe, and how many people, even in theſe times, continue to have faith in them. Nothing proves, more than this, the fondneſs of the vulgar for the marvellous. If they, who have handed down to us, theſe facts, had reflected, that poſterity would ſit in judgment on them, they would, perhaps, have been more reſerved; or would, at leaſt, have related to us, the remedies they gave, at the ſame time, with the amulets. It would then have appeared, however, that the cure was, in this manner, due to theſe remedies, and the wonderful would have diſappeared. I have read, with no little pleaſure, the account Dr. De Haen gives us of the effects of Vervain; becauſe, with his uſual candour, he relates to us, at the ſame time, the other curative means he employed; and thus enables us to determine, from Experience, the effects, which are to be expected from this plant, when employed as an amulet: he concludes his obſervations, with the following words, which I beg leave to quote: "Nunquam enim in ſimilibus tentandis, evulgandiſque, ſufficienter cauti eſſe poſſumus. Coœvis ſcribimus & poſteris. Hi, inſtitutis iiſdem experimentis, aut eadem, quæ nos; aut aliter quam nos; aut nihil omnino, quod nos; videbunt. Si nos rite, caſteque & prudenter, noſtra notaverimus, tam fauſta quam adverſa, quam inutilia, quam imperfecta; profecto dum Coætanei, ſerique Nepotes, eadem prudentia experimenta noſtra repetiverint, idem, quod nos, ſemper adnotabunt.

"Hoc demum modo Canones formabuntur practici, qui limitent morbos, graduſque morborum, in quibus proſit, non proſit, noceatve, medicamentum. Sin vero aut perfunctorie, aut nimis glorianter, aut immeritæ cupidine famæ, experimenta evulgaverimus conſequetur neceſſario id, ut nos, & preſens ætas, & poſteritas, jure condemnent. Remedium ſuſtuliſſe morbum videri proteſt, nec forte ſuſtulit: ut ſi alia ſimul data fuerint, quæ emendare morbum potuerint; aut ſi periodici morbi ſint, ut plures cardialgiæ, cephalææ, hemicraniæ, arthritides, rheumatiſmi, &c. qui vel ſponte, vel mutatis aëre, vitæ genere, alimentis, vel naturæ opera, aut mitigentur, aut ſileant, aut penitus ſæpe ſuperentur. Securos quoque nos eſſe oportet, quod ægri ſumma accuratione remedium adhibuerint; quodque non clam alia aut prætulerint, aut intermiſcuerint ſaltem, & tamen ne forte iraſcamur, neve illi careant noſtra amicitia,g ratia, patrocinio, tribuant nobis gloriam curæ. Hæc ut mihi contigere, contingunt & cæteris." Rat. Medend. Tom. 2. p. 226. Edit. Lugd. Bat.

A falſe taſte, always deſtroys a true one. This is the reaſon, why a ſuperſtitious man ſees nothing in nature, becauſe he knows nothing of her affinities: he lives, as it were, in an imaginary world. Hence it is, that ſuperſtition attaches itſelf wholly to what is falſe, and refuſes to liſten to common-ſenſe, becauſe it has nothing of the marvellous: and the marvellous, alone, can intereſt the ſuperſtitious man; becauſe, to believe, requires only an inclination to ſee. This credulity is always more convenient, than the reſearches neceſſary in an inquiry after truth.

The leſs we know of the corporeal world, the more we fancy ourſelves acquainted with the world of ſpirits. All the tales of witches, and apparitions, have originated wholly from this abuſe; and an ignorance of the animal œconomy, and of the laws of nature, has been the ſource of all the ſuperſtitious remedies that are ſo much in vogue. It is much eaſier to give a barbarous name to an univerſal ſpecific, than it is to apply a remedy to the nature of a diſeaſe. Boerhaave diſcovered, in marſh trefoil, an excellent medicine for the rheumatiſm. A ſuperſtitious man, hangs a dried toad to his thigh, or a twig of elder, gathered in a certain ſeaſon, and keeps his diſeaſe with his ſpecific. The influence of a particular planet, and a certain poſition of the heavens, &c. ought, however, to give the deſired virtue to the elder-wood, or the toad. The ſuperſtitious man, acknowledges himſelf to be deceived; but he refers his miſtake, altogether, to the time in which he applied his remedy. His ignorance ſerves to confirm him in his error.

If credit could be given to perſons of this ſtamp, they have an hundred proofs to give, of the power of their receipt. We find them inceſſantly quoting ſome learned writer, who has recommended it; or ſome good woman, who has been cured by it. Sometimes, they inſtance its good effects on themſelves. It is in this way, that ſociety, and the art of phyſic, are every day injured by theſe pretended Eſculapii.

The phyſician, in the opinion of Hippocrates, ought to poſſeſs a certain tranquility and dignity of mind, ſuperior to ſuperſtition of every kind; becauſe it is impoſſible to be ſuperſtitious, and at the ſame time, to ſee the truth. Every thing that is repugnant to the laws of nature, is equally repugnant to reaſon. Nothing of this ſort, therefore, ought, at any time, to influence the phyſician. The moment the laws of nature ceaſe, or ſeem to ceaſe, there is no longer any thing to be ſeen. The people, who fancy they have a right to ſee every thing, require ſomething of the marvellous; but it belongs only to the empiric, to ſacrifice to their weakneſs.

At a time, when phyſic itſelf was founded wholly on ſuperſtition, Hippocrates ventured to oppoſe himſelf, with energy, againſt a torrent of ignorance; and his endeavours were not without ſucceſs. He teaches us, in his treatiſe on the Epilepſy, how to reſiſt ſuperſtition; and points out, in a maſterly manner, the tricks of impoſtors, who undertake to cure, by means of charms, diſeaſes, they are unable to relieve by medicine. We find nothing in the writings of this great man, that partakes of credulity, or ſuperſtition. He liſtened to nature alone, and he interprets her, wholly from herſelf; becauſe it was from her alone, he had learnt how to obſerve.

Happily for mankind, ſuperſtition begins to be at an end, throughout the greateſt part of Europe. The dreams of divination and aſtrology, have no longer the influence now they had formerly. But as the love, and the obedience of the multitude, are founded almoſt wholly on fear; and, as this fear, has, in all ages, been the ſource of ſuperſtition; ſo, the ſuperſtition which has taken root, will never be wholly extirpated. It is not more abſurd to ſee diſeaſes in an urinal *(r)*, than it is to predict the fate of an empire, from

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(r) This obſervation, is no where more applicable, than to this country, where the people are every day, dupes to medical impoſtors of every kind; every body has heard of the urine doctor, Mayerſbach, who lately made ſo much noiſe in London. — Impoſtors of this ſort, however, are not confined to England.—At the village of Langnau, in Switzerland, there is a certain Michael Schuppach, whoſe celebrity, for many years paſt, has been ſo great, as to draw patients to him from almoſt every country of Europe. He confines himſelf wholly to the inſpection of the urine. During the ſummer months, great numbers of people are every day going from Baſil, and Berne, to Langnau, ſome of whom go to conſult Schuppach, and others merely to ſee this ruſtic phyſician, who receives them in his night-cap, and waiſtcoat without ſleeves, for he never wears a coat. He keeps an excellent Table d'Hote, and is very moderate in his charges. Many of his patients are of the higheſt rank. In the autumn of 1776, there were with him, two ambaſſadors, and ſeveral other perſons of diſtinction. He has erected a handſome building for their reception, near his hut; and likewiſe a laboratory, in which he prepares his medicines. A German phyſician, has lately taken ſome pains, to detect the artifices of Schuppach; and has publiſhed a little book on the ſubject.

from a flight of birds; and yet, the firſt of theſe, is as much believed, now-a-days, as the latter was formerly: a proof, this, that the people are, in all ages, the ſame.

ſubject. The people, however, as is too commonly the caſe, have attributed this performance, more to jealouſy, than philanthrophy. There are different prints, both of Schuppach and his wife, to be met with, in all the Swiſs and German print-ſhops.

The world has always abounded with abſurdities of this kind. About the year, 1698, an illiterate peaſant, named Chriſtopher Ozanne, became ſo famous for his ſkill in phyſic, that coaches went regularly three times a week from the Rue Contreſcarpe at Paris, filled with patients who went to conſult Ozanne, at Chaudray in Normandy, diſtant forty leagues from Paris. The patients were all inſcribed in a book as faſt they arrived, and were admitted by turns to an audience, without any diſtinction of rank. Ozanne received them in a little ſmoaky hut, and his preſcriptions were, uſually, of ſome ſimples. He delivered his opinion in a very blunt manner, and admitted of no reply. This ſingularity of behaviour, was, at length, the means of his being neglected. A young lady, who had been married only three months, went to conſult him, and related all her complaints. The huſband, who accompanied her, added every thing that he thought would throw a light on the nature of his wife's diſorder: when they had finiſhed all they had to ſay; Madam, ſaid Ozanne, your complaints are the effects of a lying-in. It was to no purpoſe, that the young couple remonſtrated againſt the abſurdity of ſuch a deciſion.—Ozanne ſhewed them to the door, and called out for other patients. M. Deſault, who has given this ſtory at length, in his *Diſſertation ſur la Goutte*, ſpeaks of it as a fact, to which poſterity, will, with difficulty, give credit. But, alas! we ſee ſimilar marks of folly and ſuperſtition, every day.

From all this it would ſeem, that the ſciences are not yet ſo permanently eſtabliſhed, but that ſuperſtition may, one day or other, reſume her influence over the mind. There are too many people, who ſee only with an intereſted eye. *Quid non mortalia pectora cogis, auri ſacra fames!* The genius for obſervation, is it not every day injured by this? Although men no longer believe in magic, or ſpells, or apparitions; yet, they are not wholly delivered from ſuperſtition. Theſe are not the only errors, to which ſuperſtition has given birth. It is ſurely not conformable to the ſpirit of ſound philoſophy, to ſpeak, and act, only with the vulgar, or to aim at being one of the multitude. Roger Bacon, who was almoſt the only wiſe man of his time, ventured to remove a corner of the veil, which covered, as it were, the whole earth. What would he now ſay, were he to ſee well-informed perſons endeavouring ſtill to keep down a corner of that ſame veil, and ſpreading it over themſelves, and the people, whenever their intereſt leads them to it?

Let us ſuppoſe, that a phyſician is a man of genius and learning, free from prejudice and paſſions; ſtill he will be expoſed to endleſs inconvenience: He will every day, meet with perſons of his own profeſſion, whoſe judgment and obſervations will teem with contradiction and abſurdity. Theſe people, will be the creatures of the ſick. In circumſtances like theſe, a variety of remedies will be propoſed, of which he can have no choice, perhaps, but from the advice of the many: his opinion, however, is required: What is he to do, on ſuch an occaſion? Is he to abandon his patient, whom he knows himſelf able to cure;

or is he to compromiſe his reputation, by treating him according to the advice of thoſe with whom he is called in? muſt he unveil the ignorance of his medical brethren, or ought he to ſee as they do? In a ſituation like this, a man of the beſt capacity, when ſurrounded by ſo many impediments, loſes that tranquility of mind, which is ſo eſſential to juſt obſervation; and the ſufficiency and ſolly of the crowd about him, embarraſs him the more, as truth is known to have no enemy more formidable than ignorance.

On the other hand, the prejudices and paſſions of the patients, themſelves, are to be oppoſed and ſilenced. If a phyſician is deprived of this advantage, and happens to fail, even when the wiſeſt meaſures have been adopted, he is perſecuted by a mercileſs ſlander. His brethren, jealous of his riſing reputation, take occaſion to blacken his fame; and thus the man of true genius, becomes a monſter in ſociety. I have ſeen too many proofs of this conduct, and of its unhappy effects, in retarding the progreſs of medical knowledge.

It is evident, then, that the favourable or unfavourable termination of a diſeaſe, often depends more on the behaviour of the patient, and thoſe about him, than on the obſerving genius of the phyſician. The equity of a patient, raiſes the hopes of a phyſician; ſtimulates his attention, and enables him to ſee well; becauſe he views things with tranquility: whereas, injuſtice, is a conſiderable impediment to exact obſervation. A prudent phyſician, will, therefore, endeavour to gain the confidence and affection of his patient, by all the means that honour and probity will allow: he will do this, by a noble and diſintereſted conduct; and, above all, by appearing to be well inſtructed in his art, and with a proper ſenſe of his own abilities. A phyſician, will, ſometimes, by theſe means, lead a patient to follow him in every thing; and thus he will be enabled to obſerve the nature of the diſeaſe, properly.

Of all the impediments that the genius for obſervation will be liable to meet with, a company of ignorant people, is indiſputably the greateſt.

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CHAP. III.

Of the Utility of good Obſervations.

IT was obſervation that firſt gave riſe to the art of healing, and has ſince led it on towards perfection. Phyſic, without obſervation, is only an empty ſound.

The firſt care of phyſicians, was to form ideas of individual things; after which, they began to reaſon on theſe, and then deducing the conſequences of each, they gradually went from particular to general ideas; and, from that which comes under the cognizance of the ſenſes, to that which did not, and which was, of courſe, unknown.

Good obſervations, are, therefore, the baſis of all our reaſoning. If they are good, they are acknowledged as *Data*.

In the infancy of phyſic, men were led by chance, to the knowledge of diſeaſes, and the methods of curing them. The ways of nature, thus opened by chance, led on, inſenſibly, to a true knowledge of them. It was ſoon diſcovered, that the art of healing,

ing, could be learnt only by obſerving nature. The beſt practitioners, therefore, followed her; and the art declined, every time phyſicians deviated from her ſteps. Men of true knowledge, will allow, that more light is to be acquired, from the eſſence of things themſelves, than from their hiſtory; and that nature is an inexhauſtible ſource of knowledge, in which the firſt ages ſought for truth, and in which alone, even now, we can think of finding it.

From the days of Hippocrates, to Van Swieten, the fathers of true phyſic, have followed nature, by a diligent obſervation: they have all of them given the ſame precepts. The true diſciples of Hippocrates, light up the flambeau of nature; his enemies extinguiſh it.

Diſeaſes are ſo various, and the things to be obſerved in them, multiply themſelves ſo much, that our attention to them, never remains unrewarded. The more minutely we notice all the circumſtances of a diſeaſe, the better we are enabled to diſtinguiſh each of them properly; and the facility of the art of curing, is proportioned to this faculty. The more we have examined the nature and effects of remedies, the more we ſhall have reaſon to hope from them, when we have occaſion to apply them. We ſhall be able to form juſt ideas of the art of obſerving, when we ſhall have ſeen what is the characteriſtic of good obſervations.

A phyſician's obſervations extend to every thing that concerns the art of preſerving men from diſeaſes, and of diſtinguiſhing, and mitigating, and curing thoſe with which he is attacked. I ſhall confine myſelf, in this book, to *the art of obſerving diſeaſes*. In the following books, I ſhall ſpeak of *the art of curing them*; becauſe it is neceſſary to obſerve before we begin to reaſon. I ſhall ſpeak of medicines, in another part of this work; becauſe a phyſician of genius, will know what remedies are indicated, before there is any queſtion of obſerving their effects; and becauſe to apply them, recourſe muſt be had to cauſe.

Obſervations ſhould be made with the greateſt accuracy: this accuracy will chiefly conſiſt in carefully noticing a number of little circumſtances, which eaſily eſcape the eye of the obſerver, but which have a conſiderable influence over the whole; for, they ſometimes point out ſome new ways, wholly different from former ones. The moſt minute circumſtances become intereſting, when one ſees, without gueſſing; and when we are thoroughly perſuaded of the reality of a thing, before we attempt to inveſtigate its cauſe.

Hippocrates is the true model of accuracy, in point of obſervation: he ſaw things which eſcaped the attention of others; and what he ſaw, was of importance. The Greeks read in the great book of nature with ſo much attention and exactneſs, that it is in their writings, we muſt, even now, in preference to all others, go to ſeek for the diſtinguiſhing and invariable ſigns of diſeaſes. I cannot wiſh for the reputation of a good writer, ſays Boerhaave, when I compare my aphoriſms with thoſe of the ancients, and judge myſelf by them.

Both patience and prudence are required for the making of good obſervations. Impatience deprives us of the confidence, we might, very properly, entertain of our own powers, and oppoſes itſelf, as it were, to the efforts we might make, to ſurpaſs even ourſelves. Prudence keeps every deception at a diſtance, and prevents every alluſion of the ſenſes, of the imagination, or of ſyſtem. Nature, ſlowly ſtudied in herſelf, is much more eaſily attained, than in ſyſtems: theſe only ſuppoſe her; whereas, ſhe, herſelf, appears to us in her true light.

Good obſervations ought to be ſufficiently repeated. It is the beſt way of diſtinguiſhing the falſe from the true; the doubtful from the probable; and the probable, from what is certain. An obſervation, well confirmed, is often as valuable as a new one: at leaſt, it brings us much nearer to truth. Both philoſophy and phyſic, have gained as much by the repetition of obſervations already made, as by the diſcoveries themſelves. If Hippocrates is not equally certain in all diſeaſes, it is becauſe he had not an opportunity of re-repeating his obſervations, in ſome of them, often enough. The ancients, however, were ſuperior to us, in this reſpect. Our application, though we vaunt it ſo much, is, in general, a very irregular one. They went from the cloſet, to the bed-ſide; and from the bed-ſide, to the cloſet.

Our obſervations are not made with ſufficient care; becauſe we do not repeat them with ſufficient accuracy. We are more inattentive than the ancients were. Hahn was in the right to wiſh that an Academy might be eſtabliſhed, which ſhould be employed wholly, in repeating obſervations made in other places; in compleating thoſe that are imperfect; correcting erroneous ones; and collecting together all the uſeful ones, to which the ſtudents of nature might have recourſe with confidence.

Obſervations ought to be made with ſincerity, even although this ſincerity ſhould lead to a thouſand doubts. They ought to contain all that the phyſician has ſeen, and the manner in which he ſaw; in order that thoſe who come after him, may penetrate farther into the ſubject, or correct his errors. The generality of obſervers, are accuſtomed to diſcover the affirmative ſide of things, and to throw a veil over the negative. It is to give up our name, and our art, to diſgrace, to do this. Time will penetrate into the darkeſt obſcurity, and the impoſture, will, certainly, one day, or other, be brought to light.

There are others, who relate the truth, only when it promiſes to add to their reputation. They do not ſeem to know, that it is truly reputable, to relate even our errors, when they are likely to be uſeful. We ought not only to aim at ſucceſs, but to avoid error. He, who confeſſes his error, thereby acknowledges to us, that he is better informed, than he was before he committed it.

It is not the rarity of an obſervation, that renders it uſeful: philoſophical and medical truths are not valuable, merely becauſe they are uncommon. The price of an old medal is increaſed by its rarity; but this is matter of opinion only; whereas, a truth, whether it be in philoſophy or phyſic, becomes intereſting of itſelf. An old and rare manuſcript, is often purchaſed at a great rate. It is the truths only, which it may contain, that can intereſt us. Lord Bacon allowed a place in Natural Hiſtory, for the moſt trivial obſervations; becauſe we are the moſt apt to neglect what we ſee every day. Every obſervation is important, when it forms a link of the great chain, which leads to inconteſtable truths.

A phyſician, who eſtabliſhes a good method of treating the moſt common diſeaſes, by judicious and certain obſervations, contributes more to the good of ſociety, than another, who attaches himſelf wholly to uncommon ones; becauſe theſe, though very valuable in an academical collection, will avail but little in ordinary practice. Let any one read what Tiſſot has written on the abuſes of opium in the ſmall-pox; and likewiſe what he ſays on the dropſy and apoplexy; let any one conſult, at the ſame time, what Morgagni has ſaid on this intereſting ſubject, in the dedication of his fourth book on the ſeat and cauſes of diſeaſes.

Good obſervations, ought not to be mixed with reaſonings. We ſhould write down the phenomena which nature preſents to us; and as we ſee them; not as we would wiſh them to be. To effect this, nature muſt be attentively liſtened to; and we ſhould carefully avoid forming any deciſion, till ſhe has ſpoken clearly. Inſtead of ſubmitting nature to our underſtanding, we ſhould do the contrary. We ſhould candidly relate what we have ſeen, and leave it to others to derive what they can from our obſervations.

The reader may be able to ſee with our eyes, when we plainly and ſimply tell him what we have ſeen: whereas, he may view things in a falſe light, if he has our judgment to encounter with, at the ſame time. This was the reaſon, why Boerhaave adviſed an obſerver, ſcrupulouſly to avoid every thing that might partake of the ſpirit of ſyſtem or opinion.

During the increaſe of a violent fever, there will be conſiderable heat. This is very clearly and diſtinctly to be perceived. A Galeniſt would aſcribe this heat to the bile; the chymiſts, to an abundance of ſulphur; Van Helmont, to the fury of his archæus: all this is uncertain, and partakes of party. The judicious obſerver, will, thereſore, avoid theſe reaſonings, and confine himſelf to truth alone.

We ought to retain only what we have obſerved; or, at the moſt, what is ſo clear a conſequence of our obſervations, that the moſt equitable, and beſt informed judge, ſhall be unable to deny its reality. This reflection proves, that Rouſſeau was in the right, to ſtile Thucydides the model for hiſtorians. He perceived, that Thucydides relates every event, without judging any; and, at the ſame time, that he omits no circumſtances, which can enable us to judge them, ourſelves. It is indeed true, that Thucydides expoſes clearly, to our view, every thing that he relates; and at the ſame time, conceals himſelf ſo artfully, that we fancy we are actually ſeeing, and not reading.

The great itch for mixing our opinions with our obſervations, is the reaſon, why the truths we derive from men of genius, are ſo often interſperſed with falſe notions. This, too, is the reaſon, why almoſt all the learned ſocieties of Europe, are every day publiſhing things contradictory to Experience. It has even been ſaid of a certain Academy, that it affords more idle tales, than a nation of Hottentots would do.

A writer of obſervations, ſhould expreſs himſelf with great accuracy. There ſhould be nothing obſcure, either in his ſtile, or the terms he employs. A good deſcription of a diſeaſe, is as inſtructive as the diſeaſe itſelf. This deſcription is to the diſeaſe, what a copy is to an original picture. The painter ſhould add nothing of his own. The reſemblance may be rendered with features more or leſs ſtriking, but the ſame features are to be rendered, and, if poſſible, with the ſame degree of expreſſion. We muſt deſcribe the infirmities of the patient, his ſufferings, his very geſtures and attitudes, and even his expreſſions and complaints. If there is either ornament or diſguiſe in all this, we at once forſake nature.

I have often been conſulted by men of fine genius: all that I required of them, when they wrote to me, was, to give me pure and ſimple nature in their letters. I was ſure it would be impoſſible to underſtand them, if they mixed any of their genius with their complaints. Perhaps, to the generality of copyiſts we might make the ſame reproach, that a celebrated academician once did, to the tranſlator of Demoſthenes: *Alas! did I not ſay, that this fellow was going to* *give genius to Demoſthenes?* It was always nature, who ſpoke from the mouth of that celebrated orator; and the tranſlator had dreſſed him out in buckram.

What is commonly, though improperly, called Eloquence, does much harm, very often, in the hiſtory of a diſeaſe; becauſe, a diffuſe deſcription uſually becomes unintelligible, in proportion, as we endeavour to heighten it.

Every thing that nature preſents to us, is not of equal importance. Preciſion, or the art of ſaying of a thing, only what belongs to it, is, on every occaſion, one of the leading marks of genius. *When you ſay any thing*, ſays Horace, *let it be ſhort.* Every thing ſhould be removed from a deſcription, the abſence of which, will not diminiſh its utility or energy. The moſt trifling circumſtances, however, are not to be neglected, when they tend to multiply the points of view of any object The remarks of a good obſerver, will, therefore, be conciſe, modeſt, and will ſeem to flow from the very eſſence of things. So, that without clearneſs of ideas, propriety of terms, and preciſion, and perſpicuity of expreſſion, never will a deſcription be adapted to things, or things to a deſcription. The reader will ſee only the *priſtis* of Horace; and who will not ſmile at ſuch an obſerver? *Riſum teneatis, amici?*

Obſervations, for which I have hitherto given only general rules, are either particular or general ones. Particular obſervations, contain only what has been ſeen in individual caſes. General obſervations, deſcribe what has occurred in many perſons.

Sydenham was of opinion, that but little utility could reſult from particular obſervations, if the obſerver confined himſelf to the making it appear, that ſuch a diſeaſe was cured once, or oftener, by ſuch a remedy. "Of what advantage," ſays he, "is it to me, "that a ſingle medicine, which I knew not before, is "added to the immenſe ſtock of eminent medicines, "that we have long been peſtered with? But if, lay- "ing aſide all others, I ſhould uſe only this, ought "not its virtues to be approved by numerous experi- "ments? And are there not, alſo, numberleſs other "circumſtances, relating both to the patient, and the "method of cure, to be conſidered, before any ad- "vantage can be reaped from a ſingle obſerva- "tion"? (s)

Friend, however, has objected, in oppoſition to this opinion, that the compleat and rational method of cure, on which Sydenham inſiſted ſo much, was due to the exact obſervation of particular caſes; becauſe, when theſe hiſtories are written with diſcernment and candour, they have this advantage, that by ſhewing us the minute circumſtances, and moſt imperceptible ſhades of diſeaſes, they tend to point out a ſure and certain method of cure.

In the opinion of Friend, Hippocrates has written his particular obſervations with infinite judgment,

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(s) See the preface to his works.

having dwelt in them on every thing that is eſſential in phyſic. He has expreſſed to us the form, and, as it were, the features, of each patient's diſeaſe: the colouring of each of theſe pictures forms a direct indication of the methods of cure, although he paſſes them over in ſilence *(t)*. Friend goes farther, and ſays, that general hiſtories, however extended and exact they may be, tend the leſs to perfect the art, as all the ſigns are neither to be met with in the ſame patient, nor are re-united in different diſeaſes. To this may be added, that the difficulty of forming a ſound judgment, is increaſed by this, that the ſigns, which are not mortal in one patient, are ſometimes fatal in another; whence it happens, that the precepts, which are, in general, written on the art of curing diſeaſes, are either uſeleſs to the phyſician, or deceive him: whereas, particular hiſtories teach to diſtinguiſh, not only the different characters of the ſame diſeaſe, but likewiſe the time, and the power of each ſymptom, and the medicines that will be required at different periods of the diſeaſe.

It is right to compare theſe two phyſicians. Sydenham was inclined to general hiſtories, and rejected particular ones. Friend, was of a contrary opinion.

(t) The great Sydenham ſays, "I have done my part, by "mentioning the indications to be anſwered, and pointing out the "time, and manner of doing it: for the practice of phyſic, chiefly "conſiſts in being able to diſcover the true curative indications, "and not medicines to anſwer them; and they who have overlooked this point, have taught empirics to imitate phyſicians." See the preface to his works.

Both ſeem to be neceſſary. In general hiſtories of diſeaſes, we ſee every thing arranged, and of its own accord, as it were, that is common to many patients; or we ſee a diſeaſe, according to its more general phenomena, and the curative means, which are the beſt adapted to it. In particular hiſtories, we deſcribe every thing that deviates from this general rule; or we diſcover by it, that one diſeaſe is more complicated than another, or attended with unuſual ſymptoms; or, that it terminated in an extraordinary manner. If all diſeaſes, without exception, were uniform in their appearance and progreſs, I ſhould wiſh only to have general hiſtories: but, as the particular circumſtances of a patient, will occaſion frequent exceptions to the general rule, particular hiſtories will often be found to be the only ones that will be uſeful. Although nature is ſimple in her appearance, when viewed in the whole, yet ſhe varies in her parts; and it is, therefore, neceſſary to be acquainted with her in both.

Of all, that good obſervers are able to teach us, the natural hiſtory of diſeaſes, is, in general, that which is of the moſt importance: it is this alone, which enables us to judge properly of all the circumſtances of a diſeaſe. By carefully attending to effects, we arrive, gradually, at the knowledge of their cauſes, and theſe lead us to the indications and means of cure. It is this ſtudy only, that can inform us, what is peculiar to the diſeaſe, and what is merely an effect of the remedies; and whether the cure is the work of nature, or of the phyſician. It is therefore, by this hiſtory, that we are able to interpret the language of nature, and to find out when the phyſician is required, to act, or to leave her to herſelf. It was to this uſeful purpoſe, that Sydenham employed all the powers of his genius, by ſtudying the natural hiſtory of diſeaſes. He was convinced, that the only way to avoid error, and to acquire the knowledge of diſeaſes, was to ſtudy nature.

Hoffmann thought one good hiſtory of a diſeaſe, of more value than a thouſand pretended ſecrets, or pompous compoſitions, which promiſe every thing.

Having thus conſidered, in a general way, the characteriſtics and utility of good obſervations, there now remains, for me, to point out ſome particular connexions they may have with our Experience.

It is a common ſuppoſition, that the moſt experienced phyſician, is he, who has ſeen the greateſt number of patients. This notion is erroneous. The phyſician who viſits the moſt patients, and he, who in the ſame town viſits the feweſt, may very often be ſaid to *ſee* the ſame number. Each country, and even each town, is ſubject to certain diſeaſes, which prevail more in ſome ſeaſons than in others. The phyſician, who is much employed, ſees theſe patients in a ſuperficial manner, for want of time. He who has leſs to do, conſiders each caſe at his leiſure, and with more attention.

Continual fatigue, and a great number of patients, and, above all, the embarraſſment of the aſſiſtants, or friends of the ſick, prevent the phyſician, who is in great vogue, from making obſervations as he ought to do, by reflecting on each; comparing them properly with each other, and with thoſe of former ages; and then endeavouring to aſcertain their cauſes. It has been ſaid, that the phyſician, who is employed night and day amongſt the ſick, is like the prieſt, who is inceſſantly running about with the ſacrament, and who ſees a great many patients, but not a ſingle diſeaſe.

So, that of many phyſicians equally inſtructed, or equally circumſcribed, in their knowledge; they who ſee the greateſt number of patients at a time, will be the leaſt certain in what they do. The underſtanding does not gallop ſo faſt as phyſicians do.

A phyſician, who is conſtantly employed, ſees too much, and does not think enough. The rapidity, with which objects ſtrike him, does not permit him to fix on any of them, ſufficiently; and therefore, they leave in his mind only a confuſed impreſſion, or an obſcure remembrance of them. Such a practitioner cannot enter into any of the minute circumſtances of a patient's caſe, and therefore cannot adopt his remedies to the variety of theſe circumſtances. He takes them all by the great.

I know a certain Eſculapius who has 50 or 60 patients every morning in his anti-chamber. He juſt liſtens a moment to the complaints of each, and then arranges them in four diviſions. To the firſt, he preſcribes blood-letting; to the ſecond, a purge; to the third, a clyſter; and to the fourth, change of air.

I once heard a phyſician of this ſtamp ſay, "*I purge all my patients to day, becauſe I am going into the country*". (u)

This ſame vulgar prejudice, leads people to have a great idea of the practice of large hoſpitals. I have ſeen in my travels, ſome of the largeſt hoſpitals in Europe; and I have often ſaid to myſelf, Heaven ſurely will have pity on theſe miſerable victims! Many that I ſaw, are very good, and very advantageous; not from the number of the ſick, but from the careful attention of the phyſicians to particular caſes. (w)

Hippocrates himſelf, practiced only in little towns, not one of which was, of itſelf, ſufficient to ſupport a ſingle phyſician. Moſt of his obſervations were made in Theſſaly and Thrace; and he names only ſmall cities. Galen ſomewhere ſays, that the ſmalleſt quarter in Rome, contained more inhabitants, than the largeſt town in which Hippocrates practiſed. It is, therefore, not the great number of patients, but the capacity for deriving all the poſſible information, from each particular caſe, which tends to form the experienced phyſician.

(u) I believe it is our Engliſh Ariſtophanes, who has very well ridiculed this matter in his Devil upon two Sticks, in which he makes one of his doctors ſay, '*What did you do yeſterday*'?— '*Why, Sir, we bled the North Ward, and purged the South*': '*Well, then, to-day, you may bleed the South Ward, and purge the North*'. I once attended the phyſician of a large hoſpital, on the continent, who viſited and preſcribed for 169 patients, in 25 minutes: he might literally be ſaid to run through the ward.

(w) There are commonly from 150 to 180 patients, in the infirmary at Edinburgh; but the attention of the ſtudents is directed chiefly to a much ſmaller number: ſeldom more than 15 or 20, who are diſpoſed in two wards. Theſe are the ſubjects for the clinical lectures: and a young phyſician will learn much more by carefully attending to this ſmall number, than by going, every day, through the Hotel Dieu at Paris, where there are ſometimes more than three thouſand patients.

Each diſeaſe has ſomething that is peculiar to it. The eye of the empiric paſſes over theſe particularities, with as much inattention as the moſt ignorant ſpectator. A ſimple phyſician ſees no more than any other ſimpleton would do. In the eye of a man of genius, the moſt common phenomena becomes worthy of the moſt ſerious attention; becauſe, it is from theſe, that he learns to generalize and eſtabliſh his principles. I may add too, that the moſt common phenomena, are the leaſt known by the generality; and this, merely, becauſe they are common: whereas, the man of genius, diſcovers in every circumſtance, ſome ſhade, or ſtriking ſingularity; becauſe one body differs from another, ſays Hippocrates, even when it is of the ſame temperament, and ſeemingly in ſimilar circumſtances. It is, therefore, the genius for obſervation, alone, that can, in theſe caſes, diſtinguiſh the various complications of diſeaſes, and deduce from them the true principles.

As it is impoſſible to arrive at the knowledge of a whole, before we are acquainted with its parts; it will eaſily be conceived, of how much conſequence it will be, not to neglect the leaſt circumſtance, even that which ſeems the moſt known. This known circumſtance is, as it were, the chain, that unites together the truths we are in ſearch of. It draws us nearer to the unknown, and enables us to ſee nature more nearly. It is by means of theſe little circumſtances, likewiſe, that we are enabled to follow her through the mazes ſhe ſo often purſues, and that we eſtimate the degrees of probability of the phenomena ſhe preſents to us.

A phyſician will, therefore, never have clear ideas of a diſeaſe, unleſs he brings with him that ſcrupulous attention, which, ſo far from neglecting any thing, aims at profiting from all. It is by this attention, that the obſerver will be enabled to diſtinguiſh what is eſſential to a diſeaſe, from what is purely accidental; and likewiſe, what is conſtant and invariable, from that which is only temporary. The true indications can never be known, till we have learned how to diſtinguiſh effects from cauſes, and *vice verſa.* Hippocrates carried this attention ſo far in his obſervations, that the moſt experienced phyſicians, ſince him, have conſtantly flattered themſelves with having ſeen nature properly, when they have ſeen it as he did.

A diſeaſe, once obſerved and determined as it ought to be, is ſo for the whole life of a phyſician. This truth, is founded on a rule, followed by the Greek phyſicians, at the beginning of their practice, and which I have purſued in the following manner: When I viſited a patient, I wrote in my journal, all that I could obſerve in this firſt viſit; together, with all that the patient related of his preceding complaints, and all their various circumſtances; and likewiſe, all that I could diſtinguiſh concerning them, myſelf. I then marked down the beſt opinion I could form of them, together with the indications I could perceive, and the remedies I preſcribed. At the ſecond viſit, I noted, very attentively, all that had happened ſince my laſt viſit, and thus gradually added to the hiſtory of the diſeaſe, by writing down all its particulars, with great exactneſs. I noted the changes that the remedies produced, and I concluded with marking, whether I had properly or improperly acted, according to the event, and what opinion the patient and his friends had of my conduct. In this manner I employed myſelf at every viſit; and whether the patient died or recovered. I conſtantly examined, with the moſt ſcrupulous attention, all the circumſtances of the diſeaſe; the nature of the remedies employed, and their application; together, with the cauſes of my good or bad fortune. It was from theſe inquiries, that I deduced rules for my future conduct in practice.

Theſe obſervations, when collected together, have convinced me, that a phyſician avoids many difficulties, who ſees a diſeaſe a ſecond time, after having thus minutely attended to it the firſt. Circumſtances may vary; but the whole does not change. Boerhaave *(x)* atteſts, that he never ſaw a patient, at the

beginning

(x) This is the way in which Boerhaave expreſſes himſelf, in his Prælect. Academic. Tom. VI. p. 281. Edit. Haller. " In prima

beginning of his practice, without writing down all the circumſtances and ſymptoms of the diſeaſe, in the order in which they preſented themſelves; and, that it is incredible, how much he had profited by this mode of proceeding. If you do the ſame, ſaid he, to his ſcholars, you will have no ſooner known four or five diſeaſes of the ſame claſs, than you will be able to diſtinguiſh them, during the reſt of your lives.

It is impoſſible for nature to contradict herſelf. Good obſervations in all ages, have proved this truth, Hatred, envy and ambition, are with us, ſuch as they were amongſt the Greeks. Our paſſions and foibles are painted by their moraliſts, as our pleuriſy, and tertian fever, are by Hippocrates: and yet, men are not exactly alike in every place.

An excellent philoſopher of our own times, has ſaid, that the writers of modern travels, inform us of no-

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" prima viſitatione ægri, non quidem aliam ſententiam proferes,
" quam verſatilem aliquam & medicamenta innocua: ſcribe
" vero in chartam ſymptomata, eam domi Tecum animo per-
" volve, quære ex te ipſo, quis morbus eſt? quænam pars
" adfecta? In quonam ſtatu morbus eſt? Quid inde poteſt
" timeri? In quamnam partem poteſt morbus decumbere?
" & vix unquam morbum non intelliget, qui prius recte per-
" ſpexerit omnia: neque intelliget morbi naturam, ſi neglexe-
" rit. Coram ægro vero nullam trepidationem oportet apparere;
" & ibi aliquid firmiter, quaſi ex mathematica demonſtratione
" adfirmari debet; quod altera die fieri poterit, morbo jam
" cognito. Fiducia enim ægri confidentiam medici ſequitur,
" neque obſequetur facile medico, quem incertum eſſe videt."

thing that we did not know before. Theſe authors, ſays he, have remarked, on the other ſide of the globe, only what they might have ſeen in their own ſtreet, without going from home: and that this is the reaſon, why the true features, which characterize each nation, and which ſtrike the eye of the connoiſſeur, have eſcaped them. Hence, that ſtale maxim, which is ſo often repeated, that men are every where the ſame; and, that it is, therefore, of no uſe to characterize each nation in particular; becauſe the ſame paſſions, and the ſame vices, are every where equally prevalent. It is the ſame, as if any one ſhould take upon him to ſay, that Peter cannot be diſtinguiſhed from James, becauſe they have each of them a mouth and eyes.

But man is generally every where the ſame, when in the ſame circumſtances. His diſeaſes, like the plants of different countries, follow the ſame order and progreſſion in their beginning, their increaſe, and event. In all ages, the ſame phyſical and moral cauſes have had ſimilar determinate effects, in ſimilar circumſtances; and the ſame changes in the body, have conſtantly produced the ſame diſeaſes. Even in climates, that are the moſt diſtant from each other, ſimilar cauſes draw together, as it were, the moſt oppoſite parts of the globe, by the identity of their effects.

From the diverſity of cauſes, there will certainly reſult a diverſity of effects, even in the ſame city, or the ſame houſe; and it is of the greateſt importance, to notice this difference. Nothing, however, is ſo uncommon, as to ſee nature totally forſaking her ordinary routes. A pleuriſy, which ſhould require wine and theriaca, would be a greater rarity, than a child with two heads. An obſervation once made, is applicable to every time and country, when the cauſes of the phenomena are once known.

I ſometimes hear pretended wits affecting, with a tone of raillery, that phyſic is ſtill ſuch as it was in the days of Hippocrates; and that the beſt informed phyſicians of theſe times, know only that which he knew. Hippocrates, was, indiſputably, the firſt good obſerver of nature, of whom we have any knowledge, and his works are conſidered even by M. D'Alembert, as the moſt beautiful and comprehenſive monument of the knowledge the ancients had of nature. If, therefore, Hippocrates ſaw nature, as it ought to be ſeen, we can only ſee it as he did. If we ſuppoſed otherwiſe than this, it would be to imagine, that nature is no longer the ſame. There are, therefore, many circumſtances, in which we are not more informed than he was; becauſe that is not poſſible. It were to be wiſhed, that theſe gentlemen could, with juſtice, reproach all our modern phyſicians with knowing only as much as Hippocrates did.

Pope ſomewhere ſays, that what is *reaſonable*, muſt neceſſarily have been ſo in all ages; and, that what we call *learning*, is nothing more than a knowledge of what the ancients conſidered as reaſonable; that they who pretend that our ideas are not our own, becauſe they reſemble thoſe of the ancients, may, on the ſame grounds aſſert, that our faces do not belong to us, becauſe they are like thoſe of our fathers; and that it is, therefore, a manifeſt abſurdity, to require us to be learned; and, at the ſame time, to be offended, becauſe we are ſo.

It is in this way, that man, always ready to humiliate himſelf, ſeeks in his own reaſonings, the means of confounding his inſufficiency and his pride. There are ſome men of ſo fantaſtical a turn of mind, that they had much rather deny their exiſtence, than ſeem, in any thing, to reſemble their fellow creatures. I once knew a man of very extenſive learning, who conſidered all the moderns as plagiaries; quoted only the ancients; and yet ſaid, at the ſame time, that he ſhould be very ſorry to be indebted to them for a ſingle idea. That the ancients ſaw many things better than we do, is very poſſible; circumſtances were, perhaps, more ſavourable to them. But, that we have not the ſame advantages, in many caſes ſimilar to thoſe which they ſaw, is what I deny. Hippocrates, may, therefore, in many things, have ſeen leſs than Sydenham, Van Swieten, Hoffmann, &c and yet it is not the leſs true, on this account, that a diſeaſe well ſeen and deſcribed by Hippocrates, is ſo for all ſucceeding times, and for every place, allowing for the difference of circumſtances. The ſame thing may be ſaid of what the moderns have obſerved. And why ſhould not all this knowledge be our own, from whatever hands we may derive it? Are we not more inſtructed than the ancients, when we unite to their obſervations, the diſcoveries of the moderns? *(y)*

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(y) The celebrated Dr. Cadogan, will at once reply to this query of the learned author. "Some induſtrious men", ſay he,

The obſervations of true phyſicians, of every age and country, will be always true; and, of courſe,

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he, in his Diſſertation on the Gout, “ fancying, that whatever is valuable, muſt lie deep, have, with the greateſt alacrity in ſinking, plunged into the immenſe abyſs of ancient Greek, Roman and Arabic learning, in hopes of finding good precepts of health, and ſure remedies for diſeaſe: but after all their pioneering into endleſs heaps of rubbiſh, what have they found at laſt, but this? That in natural philoſophy, ſome of the ancients were very ingenious in gueſſing wrong; for gueſs was all they did; they never ſtudied nature at all; they made no experiments, and therefore knew nothing of her; but either blindly followed or combated each other's opinions; ſchool againſt ſchool, and ſect againſt ſect, waged equal and endleſs war. In the art of phyſic, it was impoſſible for them to know much; for before our immortal HARVEY's diſcovery of the circulation, there could be no phyſiology at all; nor any knowledge either of the internal ſtructure or action of any one part of the body. Before the juſtly celebrated ASELLIUS and PEQUET, there could be no idea of nouriſhment; nor was it known how our food paſſed into the blood, whether it went there or not, or what became of it. But now, ſince theſe lights have ſhone in upon us, all the ancient conjectures, reaſonings and ſyſtems, muſt vaniſh like morning clouds before the Sun. Beſides all this, there are ſome of our diſeaſes, which the ancients had not; nor have we all theirs: ſome few, and very few uſeful diſcoveries, they made in medicine, which have deſcended to us; and, with ſome late tricks in chymiſtry, are the chief foundation of modern quackery. Thus have men of deep learning, if the knowledge of ancient errors can be called ſo, ſunk far out of ſight of truth, which, in things of general uſe and neceſſity, particularly the health of mankind, lies moſt commonly upon the ſurface”.—The learned profeſſor Van Doeveren delivered in the year 1771, an academical oration ‘*De Recentiorum Inventis, Medicinam hodiernam Veteri Præſtantiorem reddentibus*”, &c. This diſcourſe is but little known in this county, and the reader courſe, may be conſidered as ſo much real treaſure, that belongs to the community. The great

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reader will, therefore, perhaps, not be diſpleaſed, to ſee ſome account of it here. If we except Herophilus, and Eraſiſtratus, ſays the ingenious author, hardly any ancient diſſected human bodies, and *their* writings are loſt to us. The anatomy of Hippocrates, conſiſts almoſt wholly of oſteology, and it is diſputed whether he ever diſſected a human ſubject. Galen has given us ſome books on anatomy, from which, phyſicians, during fifteen centuries, drew almoſt all their ideas on that branch of medicine; and yet, Galen, himſelf, undertook a journey to Alexandria, merely to ſee a human ſkeleton. That he drew his ideas from brutes, and chiefly from apes, we every day diſcover more clearly, as we advance in comparative anatomy. It was not till the days of Veſalius, that anatomy began to be cultivated: the Arabian ſchool had deteſted it, and he may be conſidered as its reſtorer. Without anatomy, there can be no true phyſiology; and pathology can be founded only on the latter; and in all theſe, how infinitely do we ſurpaſs the ancients: witneſs the diſcovery of the courſe of the chyle; the circulation; the art of injecting; and our improved knowledge in phyſic, chymiſtry, and natural hiſtory. There are few diſſections in the writings of the ancients. How much do we not owe, in this reſpect, to Bonetus, Manget, Lieutaud; but above all, to the immortal Morgagni. In our Chymiſtry, we are arrived at great accuracy in the inveſtigation of aliments; of poiſons, as of lead for inſtance, whether in our liquors or veſſels. In Surgery, what elegance, and ſimplicity, and ſecurity, to what there were formerly. Limbs are more rarely and ſparingly amputated; the different kinds of Hernia more readily and happily treated; operations in the cataract, and fiſtula lachrymalis; and above all, lithotomy, as improved by Raw, Cheſelden, Morand, Douglas, Le Cat, and others, claim our admiration: and then, in Midwifery, how great has been our improvement, ſince the time of Hippocrates. "Horret animus", ſays the profeſſor, "quoties reputo, quot perierint miſelli pravo ſitu corporis exitum molientes, quos & ille & tantum non omnes veteres, in caput devolvendos eſſe, lethali cum eventu, præceperunt!

point will be to know how to appropriate this treaſure

“ Tales ut hodie vivi & ſalvi dias luminis auras ſalutent, facili plerumque ope efficit verſis in pedes, quæ pauciſſimis veterum adhibita. Vix a lachrymis abſtineo quoties in mentem revoco, neque veteres, neque fere ad noſtrum uſque ævum ullos medicos, aut chirurgos, artem calluiſſe, tenellos capite prævio ad exitum paratos, ſed naturæ defectu vel inertia retentos, vivos in lucem producendi, ſed certæ morti illos reliquiſſe, aut crudelibus injectis uncis protraxiſſe quos hodierni labores ſacile vectis ope, aut multo tutius & facilius apta & innocua forcipe, vivos, ſalvis quoque & illæſis matribus educere poſſunt.” Our Materia Medica is enriched with rhubarb, jalap, ipecacoanha, ſarſaparilla, camphor, columbo, nitre, &c. and above all, by the peruvian bark: others are more explored, and their effects better explained; as mercury, opium, and antimony. Then we have the belladonna, cicuta, colchicum, ſtrammonium, polygala, quaſſia, uva urſi, mezereon, radix lopez, &c. all which were unknown, or unattended to, by the ancients; as were the preparations from iron, mercury, &c. and the various tinctures, and extracts, which have been acquired by modern pharmacy: and yet, with all this, adds the celebrated writer, it is ſtill agitated amongſt philoſophers, whether there are more people in the world; or, whether men live longer now, than they did formerly; or ſo long as this perfection of the art might ſeem to entitle them to do. The anſwer to all theſe inquiries, is to be ſought for in our luxuries, commerce, &c.—New diſeaſes have been introduced, which were unknown to the ancients; ſuch as, the lues; ſmall-pox; meaſles; petechiæ, which have been ſo fatal in Europe, as to be called *peſtis ſeptentrionalis:* nervous diſeaſes, which were, perhaps, not known to Hippocrates, though this is diſputed: ſcurvy, which, though not quite unknown to the ancients, has more heavily afflicted later ages. To theſe cauſes of depopulation, may be added, wars: becauſe, though more ſoldiers fell in actual battle formerly, than now; yet, how many in our times, fall victims to ſpirituous liquors, lues, ſmall-pox, dyſentery, &c. In this century, an army of 30,000 French, periſhed in one year, in Bohemia; and a French writer,

(*Inſeres*

treaſure to ourſelves; and this can only be done

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(*Interets de la France mal entenduës*) aſſerts, that 300,000 French, died in battle, or by diſeaſes, in the laſt war: if we add to this, the number of Germans, Engliſh, and others, who periſhed in the ſame ſpace of time, we may form ſome idea of the loſs the human ſpecies ſuffered. We may add to this, that more ſoldiers are now entertained in peace, than formerly. Navigation, is another great ſource of depopulation. It has been calculated, that, of the many, who go to, and return from the Indies, one fifth part die in the voyage; and how many more fall victims to intemperance, change of climate, &c. Other cauſes of depopulation, will be found in the preſent rage for quackery, and in the unſkilfulneſs of many of the modern pretenders to phyſic; good women, &c.—There are others, however, who will be found to have very different ſentiments from Cadogan, and Van Doeveren; and, who will fancy that they ſee, in the writings of the ancients, every thing that the moderns have invented. When Harvey diſcovered the circulation, many of his jealous cotemporaries, when they found themſelves unable to diſpute the truth of his obſervations, aimed at diminiſhing his merit, by endeavouring to prove, that the circulation was known to Hippocrates. A certain profeſſor, on the continent, one day ſhewed me, the *Membrana Caduca* of Dr. Hunter, in the writings of Aretæus; though, I confeſs, I could not perceive the reſemblance. The learned M. Dutens, who has publiſhed two volumes, entitled, '*Recherches ſur l'origine des decouvertes attribuées aux modernes*,' has taken up the cudgels for the ancients, with ſo much zeal, and ſo much ſucceſs, as to have proved very clearly, to more than half his readers, that almoſt all our late inventions are recorded in the writings of the ancients. How, then, can we form any deciſive opinion on this ſubject; and, when men of ſo great and extenſive erudition, are at ſuch wide variance, how are little readers to be guided. It ſeems to me, that men, who are too apt to run into extremes, either laviſhly idolize the ancients, and allow no merit to the moderns; or, giving all to the latter, conſider the great lights of the earlier ages, as ſo many idle dreamers. This laſt opinion, too often proceeds from a deficiency either of taſte, or abilities, to reliſh

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by attending to nature, as they did; and thus learning how to profit by her indications.

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the Grecian literature. The ancients, cannot be ſaid to have interrogated nature, becauſe they made no experiments; but they certainly liſtened to her with unremitting attention. Boerhaave has ſaid, ‘ *optimum quod in medicina, a veteribus deſcriptum eſt, id certe eſſe* Σημειωτικην *quæ minus hodié eluceſcat*”. It is indeed, indiſputable, that the books of the divine Hippocrates, de Prognoſticis, de Prædictionibus, de Coacis Prænotionibus, de Judicationibus, de Morbis Popularibus, and his Aphoriſms; together with much of the writings of Galen, contain moſt valuable hiſtories of diſeaſes, and ſuch accuracy, with reſpect to their ſigns, as no modern phyſicians have been able to excel. The latter of theſe, however, divided his ſigns, with too much ſubtility, and mixed them with peripatetic principles, the doctrine of the four humours, &c. There are, likewiſe, many excellent precepts, in ſemeiology, to be derived from the writings of Celſus, Aretæus, Cælius Aurelianus, Paulus Ægineta, Trallian, and others. But, when a phyſician unites to a knowledge of theſe ancient writers, the works of Sydenham, Boerhaave, Proſper Alpini, Baglivi, Morgagni, Hoffmann, Van Swieten, Haller, Huxham, Pringle, Baker, Cullen, De Haen, and others, of the moderns; he may, then, ſurely, without any diſparagement to ancient medical literature, give the preference to that of the moderns.

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CHAP. IV.

Of the Obſervation of the Phenomena in Diſeaſes, and of their Signs.

THE obſervation of phenomena, ought to be the firſt employment of the mind, in the vaſt ſtudy of nature. The ſigns, are, to the attentive phyſician, the lights which are to lead him on, in the uncertain way, in which he will often be ſurrounded by obſcurity; and, where his ſenſes will ſuffer a thouſand objects to eſcape them, from the illuſion which abuſes them.

To form diſtinct ideas of the diſeaſes of individuals, we muſt know what has taken place in the body, ſo as to diſturb and injure its functions. It is only by the mind's eye, that this can be diſcovered, becauſe, it is our reaſon alone, that can lead us on in the inveſtigation of things, which are not ſubmitted to the ſenſes. Hence it was, that Hippocrates was willing to reaſon only from the phenomena.

The ſymptoms, are theſe phenomena:—it is on theſe, that the attention fixes itſelf; and it is always of importance, to conſider them carefully, before ſore we proceed to any concluſions, concerning the nature of the diſeaſe. A phyſician, therefore, attaches himſelf to the changes, which have happened to the body, and eſtimates them, according as they occur to the ſenſes, without attending to their cauſes.

To underſtand, by the word ſymptom, every effect of a diſeaſe, would be, at once, to diſcover the ſource of the complaint. Every ſymptom, is not an effect of the diſeaſe; but, in general, every particular change, different from health, which happens to the body, and falls under the ſenſes, may be called ſymptom. (z)

Symptoms, are generally diſtinguiſhed into eſſential and non-eſſential. The *eſſential* ſymptoms, are thoſe, which proceed immediately from the diſeaſe itſelf, and are inſeparable from it. Thus, fever, cough, pain in the ſide, and difficulty of breathing, are the eſſential ſymptoms of pleuriſy. The *non-eſſential* ſymptoms, are thoſe, which occaſionally appear in a diſeaſe; as vomiting, ſweating and diarrhœa, in pleuriſy.

(z) Dr. Gaubius ſets this matter in a much clearer light, in his Inſtit. Patholog. "Tria nimirum in ſe æger habet, quæ "præter naturam ſunt: morbum, hujus cauſam & ſymptoma. "Mutuus inter hæc nexus datur. Uti morbus non ſine cauſa, "ita nec ſine ſymptomate eſſe poreſt: nec hoc viciſſim ſine "illis . . . . . Utrumque porro ſymptoma ſi ſua vi "aliam rurſus produxerit affectionem ſenſibilem, hæc ſymptoma "ſymptomatis vocatur".

The eſſential ſymptoms, are divided into ſymptoms of the diſeaſe, ſymptoms of the cauſe, and ſymptoms of the ſymptoms. The ſymptoms of the diſeaſe, are thoſe which reſult from its actual preſence; and theſe, are, of all others, the moſt important, becauſe they tend to denote its nature: they differ, however, from the diſeaſe itſelf, and from its proximate cauſe The fever, the pain, and the difficulty of breathing for inſtance, which are the ſymptoms of the diſeaſe, in pleuriſy. differ from the inflammation, or proximate cauſe of the diſeaſe.

I paſs over, in ſilence, the too ſubtile diviſions of ſymptoms of the cauſe, and ſymptoms of the ſymptoms, &c. becauſe, all this is foreign to my plan, and even uſeleſs. Simplicity, is always to be preferred both in ſpeaking and teaching.

Sometimes, we remark other ſenſible effects in diſeaſes, which conſidered in their origin, are, indeed, of the number of eſſential ſymptoms; but which are, however, ſo permanent, that they laſt longer than the diſeaſe itſelf. They are, therefore, regarded, rather as ſecondary diſeaſes, than ſymptoms: ſuch are the palſy, after the colic of Poitou; palſy, after the gout; aſthma, after an inflammation of the breaſt, &c.

We likewiſe diſtinguiſh other ſymptoms in diſeaſes, which the ancients ſtiled *Epigenomena* (ἐπιγενόμενα) and which are, by no means, to be confounded with thoſe of which we have ſpoken, becauſe they totally differ from them. By theſe ſymptoms, we underſtand thoſe movements of the ſyſtem, which oppoſe themſelves to the diſeaſe, until the natural powers of the body, are overcome by the violence of the diſeaſe: to this head of *epigenomena*, may be referred extraordinary nauſea, ſpaſmodic affections, convulſions, fevers, cutaneous eruptions, abſceſſes, hemorrhages, diarrhoeas, ſweats, and many other phenomena, which accompany, or join themſelves to the diſeaſes ; but which are not, however, to be conſidered as the immediate effects of it, or its cauſes ; and, are, therefore, not to be ranged amongſt the ſymptoms, properly ſo called ; but, rather, as ſo many effects of the ſtruggle there is between nature and the diſeaſe. *(a)* Sometimes, the re-eſtabliſhment of the patient, is the happy conſequence of this ſtruggle ; ſometimes, nature yields in the conflict, and another diſeaſe takes place, or the patient dies.

There is, likewiſe, another ſpecies of ſymptoms, which are diſtinguiſhed from the epigenomena, although they relate to them. Theſe are ſymptoms that ariſe from accidental cauſes. They, nevertheleſs, merit all our attention, becauſe they aggravate the diſeaſe, often render it mortal, combine with it other diſeaſes, change, entirely, the form of the original complaint, diſturb the ſalutary motions of nature, and impede the efforts of the remedies we employ. Sometimes, however, theſe accidents may have their uſe, and are, in certain circumſtances, the ſources of

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(a) Our celebrated countryman, Sydenham, has very well defined fever, "Naturæ conamen materiæ morbificæ, corpori "valde inimicæ, exterminationem in ægri ſalutem omni ope "molientis".

health. All the irregularities of the patient, may be referred to this head. Theſe are but too frequent, in the abſence of the phyſician, or from the advice of the ignorant. Sometimes they bring about a cure, without our being able to explain the reaſon of it. The obſervation of theſe ſymptoms, is, in general, of the greateſt importance towards aſcertaining the cauſe of each phenomenon; leſt we ſhould attribute to nature, or to our remedies, what is derived wholly from theſe accidental cauſes. The ſymptoms of the diſeaſe, are of the claſs of eſſential ſymptoms. The *epigenomena* are likewiſe of this claſs, every time they help to determine the nature of the diſeaſe, that they participate of its cauſes, and contribute to produce the efforts that nature oppoſes to the diſeaſe. Amongſt the non-eſſential ſymptoms, are included thoſe which depend on fortuitous cauſes, which have a remote affinity with the diſeaſe, and which may either exiſt, or not exiſt.

The eſſential ſymptoms have their diſtinctions. Some of them appear at the ſame time as the diſeaſe, and proceed, and ceaſe, with it; and thus, are inſeparable from it. There are others, again, which do not appear at all times, and in every period, and are, therefore, called *chronic ſymptoms*. The careful obſerver will collect both the one and the other, and, by diſtinguiſhing them, and their affinities, with each other, properly, will be enabled to know the preſent complaint, and to form his prognoſtic of what is to come. The definitions and the hiſtories of diſeaſes, derive from this alone the character of truth, which enables us to diſtinguiſh them, and thus, places nature, as it were, under our eyes, in her cleareſt point of view. The chronic ſymptoms teach us to diſtinguiſh the degrees and the periods of diſeaſes, and, by theſe, to regulate our conduct, with reſpect to the other ſymptoms.

Nor will the obſerver neglect the non-eſſential ſymptoms, although they are not ſo cloſely connected with the diſeaſe. The doctrine of criſis, depends, in a great meaſure, on a knowledge of the epigenomena. All theſe, lead to diſtinguiſh the differences of temperament, age, &c.

The ancients were acquainted with the doctrine I have here laid down; and the beſt phyſicians, amongſt the moderns, have thought in the ſame way. Hippocrates, long ago, ſaid, that there are, in all diſeaſes, certain circumſtances, which appear conſtant, and inſeparable from them; that others, appear, in one or other diſeaſe, indifferently, although the diſeaſes are different; that what is conſtant, depends on the individual and invariable nature of the diſeaſe; whereas, what is variable, ariſes from the concurrence of divers cauſes, and of different methods. Hippocrates, has noted, in his Aphoriſms, every thing that is conſtant, as ſo many rules of the art. But with reſpect to variable circumſtances, he was unwilling to arrange them amongſt his maxims; and, has, therefore left them to the penetration of the obſerver.

In ſpeaking of the genius for obſervation, I remarked, that the obſerver connects things together, in proportion, as he perceives them. The order of this connexion will be better felt, when I ſhall have ſhewn how the mind paſſes from the idea of ſymptoms, to the idea of diſeaſes. The ſymptoms, as I have already ſaid, are not the diſeaſe, itſelf; not even when they appear with it, and continue, and ceaſe with it; or, when, as the Arabians expreſs it, they follow the diſeaſe, as the ſhadow follows the body.

A patient may know all the ſymptoms of a diſeaſe, and yet know nothing of the diſeaſe itſelf; becauſe, the former fall under the evidence of his ſenſes; whereas, the latter can be acquired only by reaſoning. Reaſon combines the perceptions of the ſenſes; and a diſeaſe is a combination of different ſymptoms, co-operating with, or ſucceeding, and connected with each other. The diſeaſe, therefore, differs from a ſymptom, although the latter diſappears with the former; in the ſame way that the hiſtorical knowledge of a diſeaſe differs from the philoſophical knowledge we may be able to acquire; *i. e.* a knowledge of the cauſes. We, therefore, paſs from an idea of the ſymptoms to that of the diſeaſe; when, after having compared the preſent ſymptoms with the effects, which have formerly reſulted from ſimilar appearances, we draw concluſions as to the real diſeaſe. Every eſſential ſymptom, is a part of the diſeaſe; and, it is the union of all the ſymptoms, that conſtitutes the diſeaſe. A phyſician, has, therefore, done his duty, when he has properly ſeen, and diſtinguiſhed, and combined, all the phenomena. We repeat it again, that we call *diſeaſe*, not every phenomenon that deviates from a ſtate of health; but, rather, a concurrence of ſymptoms, which we know, from long obſervation, to begin, increaſe, diminiſh, and diſappear, together.

Diſeaſes obſerve a certain order amongſt themſelves. The knowledge of what is eſſential and non-eſſential, leads us to the knowledge of their reſemblance, and diverſity. The knowledge of the ſimple ſymptoms, leads us on to underſtand the more compound ones. Thus we proceed, from ſimple to compound diſeaſes; and, from the idea of many particular diſeaſes, inſenſibly ariſes the idea of their dependance on, and affinity to, the general ſyſtem. These notions conſtitute the hiſtorical part of diſeaſes, or noſology, which is wholly ſupported on the obſervation of the different combinations of the ſymptoms, and of their progreſs, and event, whether it be in life or death.

It was by a peculiar excellence in all this, that Hippocrates has rendered his writings ſo valuable. He obſerved, that all diſeaſes do not appear at the ſame age; but that ſome are peculiar to certain times of life, and others, to particular ſubjects: that ſome diſeaſes attack a whole country. He found, that theſe laſt, are ſometimes long before they appear again; whereas, the others return often. He obſerved, likewiſe, that in certain countries, ſome diſeaſes, have, from particular cauſes, eſtabliſhed, as it were, their empire.

With reſpect to the progreſs and event of diſeaſes, he has well remarked thoſe, which are uſually mortal; thoſe, which ſoon terminate in death, rather than in a cure; and, laſtly, thoſe, which proceed ſlowly towards their termination. He did not fail to obſerve, that, in acute diſeaſes, when left to themſelves, and not ſtopped or diſturbed by any improper remedies,

medies, there happened certain ſenſible changes, for the good of the patient; and, as theſe changes took place on particular days, he was extremely attentive, and accurate, in noting theſe days. As to the reſt, he was content to write down theſe events, without concerning himſelf about their cauſes.

We ſee then the manner, in which the hiſtorical knowledge of diſeaſes, leads us to the knowledge of them when preſent. In ſtudying a diſeaſe at the bed-ſide, we have, at the ſame time, by this previous knowledge, all that the beſt phyſicians have obſerved on particular diſeaſes. By judiciouſly comparing theſe obſervations with all that we remark in the diſeaſe before us, the nature of it becomes evident.

Nothing, therefore, is of more importance, than a true and authentic hiſtory, made in the way we have pointed out in the preceding chapters; for we ſpeak, here, of an hiſtory drawn from phenomena, and not from hypotheſis.

This hiſtorical knowledge, or knowledge of the phenomena, differs from the knowledge of the cauſes, or philoſophical knowledge of diſeaſes. To have an hiſtorical knowledge, is to be acquainted with diſeaſes according to the ſteps of nature; becauſe, there is ſuppoſed in this, only a knowledge of what is ſubmitted to the ſenſes; whereas, the mind does not always ſee with the eyes, in an inquiry after cauſes. As the certain is not to be confounded with the uncertain; ſo, neither is the hiſtory of the phenomena, to be confounded with the examination of the cauſes;

and, therefore, the cauſes ſhould have no place in the hiſtory of the phenomena of diſeaſes.

It has been long acknowledged, that Hippocrates chiefly owed his great reputation, to the attention with which he obſerved the moſt minute circumſtances of diſeaſes; and the accuracy, with which he noted all that had preceded them; the accidents, that accompanied them; and, whatever was of uſe, or hurtful, during their courſe. Hippocrates, has, in this, given us a true pattern, of what ought to be the hiſtory of diſeaſes. Inſtead of inquiring after the cauſes of events, he contented himſelf with relating the events themſelves, as he ſaw them take place; and he determined them with ſo much preciſion, that all good judges have learnt from him, how to diſtinguiſh diſeaſes properly, and to judge of their event in ſimilar caſes.

It is certain, that an inquiry after cauſes is of great importance, and that we ought to aim at aſcertaining the ſeat of a diſeaſe. But it is erroneous to ſuppoſe, that, by the cauſes, and the ſeat of diſeaſes, we can foreſee and determine their general ſigns and character. What, ſays M. Sauvages, is the end, that firſt preſents itſelf to us, in the practiec of phyſic? no other, than the different combination of the phenomena, which appear differently, according to the different periods of the diſeaſe; and, which are, nevertheleſs, connected by a certain chain, and in a certain order, according to the nature of each particular diſeaſe.

We do not always ſee the remote cauſes; even the proximate ones, generally eſcape us. We muſt, therefore, learn to know diſeaſes from their phenomena, before we begin to ſtudy them from their cauſes.

The concurrence of certain ſymptoms, leads us to the generic name which has been given to diſeaſes, and, at the ſame time, to their ſpecies. An acquaintance with the ſpecies and ſigns, leads us to the whole hiſtorical knowledge of diſeaſes ; but very often fails in giving us their cauſe.

It is, always, to the great diſadvantage of the ſick, that we deduce the firſt ideas of a diſeaſe from its eſſence or character. We, every day, hear of muriatic, or inſpiſſated, or corrupted blood, without, however, ſeeing any proof of it. It is, nevertheleſs, from theſe arbitrary principles, that the generality of practitioners judge every day of the phenomena of a diſeaſe, and that they eſtabliſh their indications and methods of cure. They, who have not poſſeſſed a talent for obſervation, have, in all ages, founded their doctrines and their practiſe on this piteous jargon. Never have they deduced their names, and definitions of diſeaſes, from the phenomena that preſented themſelves to them ; becauſe, they fancied their conceit was more flattered, by pretending to know the eſſence of every diſeaſe.

Names, likewiſe, that are taken from the proximate cauſes of diſeaſes, afford only erroneous notions. It is true, that one is often obliged to adopt theſe names, becauſe they are generally received, and we ſhould, without them, not be underſtood, by the generality. We know, that the pretended riſing of the uterus, has nothing to do with the vapours; and yet, the denomination of this affection, as founded on obſervation and Experience, would be, to moſt people, unintelligible. A lady, ſaid to me, the other day, ‘ I am now certain, that my diſorder is not the va-‘ pours, as you tell me it is.’ ‘ What is it, then, ma-‘ dam?’ ‘ 'Tis in the nerves.’

A diſeaſe can be named after its proximate cauſe, only when its cauſes are generally adopted; hence it is, that *pain in the ſide*, is better ſaid, than *inflammation of the pleura*.

Definitions are therefore beſt, when taken from the phenomena, and not from the eſſence of the diſeaſe itſelf; conſequently, *nominal* definitions are preferable to real ones. We know, that nominal definitions, conſiſt in the enumeration of ſome properties, by which one thing may be diſtinguiſhed from all thoſe of the ſame ſpecies; whereas, real definitions prove, in what way a thing is ſuch, or poſſible. Phyſic, ought, therefore, to be carried to the higheſt perfection, for us to be enabled to give, at once, a real definition; and yet, nothing is more common amongſt phyſicians. One ſays, the malum hypochondriacum, is an embarraſſment of the circulation, in the lower belly; another, that it is from a ſuperabundance of atrabilious matter; a third, aſcribes it to a bad conſcience: each gives his definition, not from the phenomena of the diſeaſe, but according to ſome hypotheſis he has adopted concerning it. We do well, therefore, to lay aſide real definitions, until the proximate cauſes of diſeaſe can be aſcertained in an inconteſtable manner.

A diſeaſe can be known, only by excluding all hypotheſis. He, who without ſeeking for cauſes, attaches himſelf to the conſtant and inſeparable ſigns of a diſeaſe, will rarely miſtake one diſeaſe for another, unleſs he is guided by ſome arbitrary notions. So, that a phyſician, who obſerves the different ſymptoms, and knows, by their concurrence, how to form, to himſelf, an idea, that ſhall anſwer to them, without confounding the idea of all the ſymptoms, with that of each particular one, will have acquired a true notion of diſeaſes. The natural progreſs of the human mind, ſays M. D'Alembert, is to riſe from individuals, to ſpecies; from ſpecies, to genera, and from proximate genera, to remote ones: ſo, that at each ſtep, we form a ſcience, or add a new branch to the ſcience already formed.

We often ſee many diſeaſes of the ſame genus, and denominated and combined together, though very different from each other, and an attempt to cure them by the ſame treatment. The inflammation of the pupil of the eye, is very different from the inflammation at the edge of the cornea, although both reſemble each other, in appearance.

Boerhaave ſaw a collyrium employed for the firſt of theſe, by means of which, the patient entirely loſt his ſight. It is for this reaſon, he directs, in the inflammation of the pupil, venæſection, without delay, *ad deliquium*; and then, that the eye be kept moderately warm, externally, that the inflammation may not be followed by ſuppuration, which would ſoon deſtroy the ſight.

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The inflammation of the pupil, will be diſtinguiſhed by the acute pain, that every ray of light excites in the eye; whereas, the inflammation of the edge of the cornea is accompanied with much leſs pain. An inflammation of the cornea from a venereal affection, ought to be carefully diſtinguiſhed from a common inflammation of that part. The remedies, proper to be employed, in one of theſe caſes, would be altogether uſeleſs in the other. There is given us as a diſtinguiſhing mark of the firſt of theſe caſes, a fleſhy tumour, ſomewhat hard anteriorly. I have likewiſe ſeen this tumour in the ſecond caſe; it continued during fourteen days, and the diſeaſe, accompanied by a total blindneſs, gave way only to the pediluvium, and to leeches repeatedly applied near the eye. In the firſt caſe, however, this tumour becomes ſo conſiderable, that it extends on every ſide; the eye, is from the firſt, of a yellowiſh white, and, as it were, purulent: a thick, acrid, glutinous, and yellowiſh ſeroſity, flows from a number of little points; and theſe little points change inſenſibly, into little veſicles; neither theſe, nor the points, are perceived in the ſecond caſe.

It appears, clearly, from this, how neceſſary it is to have a diſtinct knowledge of the ſpecies of diſeaſes, which ſo many people confound, and treat, without attending to the difference there is between them. This happens every day, in the ſeveral kinds of ſore throat, colic, phthiſis, epilepſy, jaundice, *&c.*

We conſider, as diſeaſes of the ſame ſpecies, thoſe which reſemble each other, by conſtant and invariable characters. Different ſpecies, which reſemble each other, by ſome common ſymptoms, but which have, each, ſomething particular, are ſaid to be of the ſame genus. The reſemblance of the genera, conſtitutes the claſſes. It is, ſometimes, much eaſier to diſtinguiſh the genera of diſeaſes, than their ſpecies: becauſe, to determine the latter, we are often obliged to have recourſe to cauſes, which depend on other diſeaſes. The phthiſis, for inſtance, may be owing to gonorrhea, to the lues, ſcurvy, jaundice, chloroſis, tenia, too haſtily cured; worms, aſthma, hemoptoë, morbus hyſtericus, diarrhœa, dyſentery, diabetes, colliquative ſweats, hemorrhage, exceſſive flow of milk or ſeminal juices, fluor albus, obſtructions of the inteſtines, and, above all, of the glands of the meſentery, ſtones in the kidneys or bladder, large external abſceſſes, or internal ones, as in the liver, ſpleen, bladder, inteſtines, or breaſt; an infinite number of diſorders, neglected, or badly treated; particular conſtitutions, weakneſs of the vaſcular ſyſtem, and corrupted fluids. Notwithſtanding this variety, the determination of the ſeveral ſpecies, is not altogether uncertain, becauſe they depend, in a great meaſure, on the remote cauſes.

The phyſicians of the Cnidian ſchool, before the time of Hippocrates, made a diſeaſe of each particular ſymptom; becauſe they were ignorant of the art of combining, under one general denomination and deſcription, the circumſtances of different diſeaſes, by which they reſemble each other. Hippocrates, ſays, indeed, that theſe obſervers had very well related all the patient's complaints, and in what manner they came on; and, in ſhort, all that any perſon, who is not acquainted with phyſic, would be able to deſcribe, after having informed himſelf of every circumſtance that the patient ſhould be able to tell. But, that they omitted almoſt all the things that a phyſician ought to know, without being obliged to aſk them of the ſick.

Theſe phyſicians were therefore deficient in not diſtinguiſhing the eſſential ſymptoms of diſeaſes, from the non-eſſential, or thoſe which are common to many diſeaſes; and Boerhaave has very properly obſerved, that all the knowledge of the Cnidians, conſiſted in obſerving aſſiduouſly, every thing that had happened previous to a diſeaſe, and noting its progreſs, and event, without deducing any conſequences from their obſervations, or referring the ſpecies to genera.

From this want of reflection aroſe ſpecies and names of diſeaſes without number; as if a diſeaſe ought to vary in its name, becauſe it differs in ſome ſlight circumſtance, which does not occaſion any eſſential difference. Hence it is, that the numerous ſpecies of fevers, to be met with in the works of Hippocrates, are conſidered as coming from the Cnidian phyſicians, and are, therefore, diſtinguiſhed, by good judges, from the genuine writings of that great man.

Galen reproached the empirics with being guilty of the ſame error, and thus, for want of method, they augmented the number of diſeaſes, *ad infinitum*.

Sennertus, and ſome others of the moderns, have fallen into the ſame miſtake, by having divided diſeaſes, with too much ſubtility. We, therefore ſee, by all this, how neceſſary it is, not only to know how to diſtinguiſh the ſpecies of diſeaſes, but, likewiſe, to know where the difference ends. Perſons, who are not ſufficiently attentive, or inſtructed, diſtinguiſh diſeaſes as different ones, when they are, in fact, the ſame; and claſs together, others, which have not the leaſt affinity with each other.

De Gorter has obſerved, that the ſpecies of diſeaſes, are as conſtant as thoſe of plants; and, that nature, appearing ſo conſtant, there was reaſon to hope, that, one day or other, diſeaſes would be reduced to a ſyſtematic arrangement, with as much certainty as plants. Such a work, has long been a deſideratum, in which diſeaſes might be arranged in claſſes, genera, and ſpecies, from the juſt and determined characters of each. *(b)* It is certain, that there

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(b) It was our countryman, Sydenham, and not De Gorter, who firſt mentioned this method of arranging diſeaſes, though the latter did particularly recommend it. "All "diſeaſes, ſays Sydenham, ought to be deduced to certain "and determinate kinds, with the ſame exactneſs, as we ſee "done by botanic writers, in their treatiſes of plants: for "there are diſeaſes, that come under the ſame genus, bear "the ſame name, and have ſome ſymptoms, in common, "which, notwithſtanding, being of a different nature, re"quire a different treatment. Thus, it is generally known, "that the word, *Carduus*, is applied to ſeveral kinds of "herbs; and yet, a botaniſt would be guilty of an inaccu"racy, who ſhould content himſelf with giving a general "deſcription of the plant, and enumerating the marks wherein "it differs from all others; and in the mean time, take no "notice of the peculiar characteriſtics of every ſpecies, which "diſtinguiſh them from one another. In like manner, it is "not

there are many diſeaſes; which, notwithſtanding their apparent complication, have a character, as conſtant as the moſt ſimple plants. This, however, is not the caſe with all.

Be it as it will, it is by carefully attending to ſigns, that we learn to know diſeaſes. The ſame diſeaſe, may, however, appear in very different lights, or aſſume the character of another: or, it may be attended with ſome ſingular circumſtances. A very ſlight mark of diſtinction, often leads to this, and is, therefore, not to be overlooked. As to ſigns, conſidered in themſelves, it is to the pathognomonic ſigns, that our obſervations ought particularly to be directed.

" not enough for a writer to give us only the common ſigns " or appearances of any diſeaſe; for, though the ſame variety " does not happen in all diſtempers; yet, I hope to make " it plainly appear, in the following ſheets, that there are " ſeveral, which, notwithſtanding their being treated of by " authors, under the ſame name, without any diſtinction " of kind, are extremely different". M. Sauvages had the merit of firſt executing a work on ſuch a plan. He was a man of great learning, and incredible application, as will ſufficiently appear by his work, which is, or ought to be, in the hands of every phyſician. He has, indeed, made too many diſtinctions; but, if we conſider his work as a dictionary of diſeaſes, this, perhaps, may be ſaid to add to its utility.—Dr. Cullen's arrangement is ſimple, conciſe, and natural, and eaſy to be retained. A phyſician, therefore, ſhould have this in his memory, and Sauvages to refer to, in his cloſet. Other methods have been publiſhed by Linnæus, Vogel, Macbride, and Selle, all which have conſiderable merit.

I have, hitherto, ſaid nothing more of the phenomena of diſeaſes, or of their connexion, than what may be conſidered as the general theory of ſigns. I ſhall ſpeak of the application of all theſe reflections, in the chapter of the ſecond part of the inquiry after the cauſes; in which, many phenomena will be found under the title of cauſes, becauſe Experience has proved that they are ſo.

Theſe cauſes have long been conſidered as ſimple phenomena, and they are ſtill thought to be ſo in all diſeaſes that are not accurately known: this uncertainty will continue, till their nature ſhall be better determined. My general deſign has been to prove, that the phenomena, are, in diſeaſes, what the phyſician ought firſt to attend to. I will point out, here and there, by proper examples, how he will be able to diſtinguiſh, in the general idea of a diſeaſe, the ſymptoms, according to their order and connexion; and how, in different diſeaſes, he will be able to judge of their variations and terminations; and this, by ſimple phenomena. It ſeems to be more natural, in my opinion, to ſpeak here of the ſymptomatology, or theory of phenomena, only in a general way; and to relate the phenomena themſelves, at the ſame time, with the theory of the cauſes.

The phenomena, if related here, and unconnected, would appear as a ſkeleton; whereas, in their proper place, they will become, as it were, an animated body.

I will, therefore, go on to the theory of ſigns. By the word, *ſign*, I mean every circumſtance of a diſeaſe, that informs us of its paſt or preſent ſtate, or of its changes or termination. A ſign, may, in general, be defined, to be a thing known, which leads us to the unknown. The ſigns of diſeaſes, belong, in ſome meaſure, to the claſs of phenomena, becauſe they are taken from what falls under our ſenſes; but they, likewiſe, are often ſeated in the cauſes.

Every ſign in a diſeaſe, is an effect of that diſeaſe; but every effect, does not lead us to the knowledge of its cauſe. It is, however, only by theſe, that we can arrive at them. The external ſigns of diſeaſes, will, therefore, lead us to the knowledge of the internal ſtate of things.

Boerhaave ſays, that nothing is more neceſſary in phyſic, than the ſigns; and, that it would be better to know nothing of medicine, than to be ignorant of theſe; and, that the phyſician ought to devote himſelf almoſt wholly to this branch. In another part of his works, he ſays, that no part of medicine is of more importance, than this of ſigns; and, that it is the firſt and moſt eſſential of all: the moſt eſſential, becauſe, it is by theſe, only, we can inform ourſelves, as to the ſtate of the patient, and whether the diſeaſe is ſuperior to the ſtrength of the ſick; the firſt, becauſe it was the firſt employment of the earlieſt phyſicians. They obſerved, for example, in the pleuriſy, with which they were not yet acquainted, a pain in the ſide, accompanied with a difficulty of breathing, quickneſs of pulſe, and great thirſt: all theſe ſymptoms, were ſo many ſigns, which came under the ſenſes; but ſtill they were ignorant, as to what the diſorder might be. At the end of two or three days, they ſaw the patient ſpit blood, and void a clouded urine, and with theſe ſigns recover his health. On the other hand, they ſaw others, who died of this pain, and that the ſide of the dead body, appeared of a brown and blueiſh complexion. They found, on opening theſe ſubjects, that this ſide was in a gangrenous ſtate, both without, and within; and they, therefore, judged, that the diſeaſe had been a violent inflammation in the ſide; and they, therefore, called it *pleuriſy*.

The ſigns, which point out to us, the preſent ſtate of a patient, are the firſt to which we ſhould attend. It often happens, however, that we can have no clear idea of the preſent, without having recourſe to the preceding ſtate of the patient. We endeavour to do this, by aſking proper queſtions; and thus, by informing ourſelves of all the changes that have happened to the body, both externally, and internally, we endeavour to fix on whatever is ſignificative. Above all things, we muſt know at what time, and from what circumſtances, the diſeaſe began, and in what part of the body it was firſt felt; what have been its progreſs and its effects; we examine, at the ſame time, every thing that has happened out of the ordinary courſe of nature, that we may deduce from all theſe, the neceſſary inſtructions. The ſtate of the viſcera, the proportion of ſecretions, and excretions, and of the quantity of matter that may remain in the body; all theſe things require an equal attention, if we are deſirous not to miſtake the ſigns of diſeaſes.

The progreſs of a diſeaſe, is to be aſcertained, by attending carefully to the ſigns that its changes afford, and the circumſtances that follow them. Some of theſe ſigns will be found, by conſidering the ſymptoms, and by ſagaciouſly diſtinguiſhing what is temporary and occaſional, from what is conſtant; the proximate, from the remote; and the eſſential, from the non-eſſential.

The wiſe author of nature, has fixed the courſe of the generality of diſeaſes, by immutable laws, which are ſoon diſcovered, if the courſe of the diſeaſe is not interrupted, or diſturbed, by the patient, or thoſe about him, who are often the cauſe of moſt of the unexpected ſymptoms.

By means of theſe ſigns, we ſoon are enabled to know, at what period the diſeaſe; is whether, in its increaſe, its acmé, or its decline. Boerhaave conſidered theſe ſigns as of ſo much importance, both in the examination and treatment of the ſick, that he knew nothing which had a greater influence on the ſucceſsful, or unſucceſsful practice of phyſicians. It is from the critical ſigns, and from the ſtate of the diſeaſe, that we are enabled to deduce thoſe which inform us how a diſeaſe will terminate, whether in a cure, in another diſeaſe, or in death; and, that we know the time, when the termination will take place. We arrive at this knowledge, by comparing all the other ſigns together, and deducing conſequences from a great number of ſimilar caſes.

The ancient phyſicians muſt long have noticed the ſimple phenomena of diſeaſes, and all the effects of nature, or of art, before they could be able to ſay to themſelves, with probability, "an hun-"dred times, in ſuch a diſeaſe, with ſuch circum-"ſtances, theſe ſigns have been the forerunners of "ſuch an event; they are, therefore, ſo now".

The particular attention with which Hippocrates noticed, even the moſt minute circumſtances, gave him that adroitneſs for diſtinguiſhing, as it were, at the firſt glance, one diſeaſe from another; and the art, with which he learnt how to compare ſimilar diſeaſes, in different ſubjects, and to eſtimate the ſymptoms, according to their juſt value, enabled him to foretel the event of diſeaſes, with a degree of probability, which approached nearly to certainty; and to ſay, to thoſe who were well, the diſeaſes with which they were threatened. But this advantage, that hardly any other phyſician has poſſeſſed in the ſame degree that he did, was not the fruit of haſty obſervation. He muſt have been able to ſay to himſelf, why he was deceived at ſuch and ſuch times, in his predictions; before he could be able to prognoſticate with that degree of certainty, which procured him the confidence of his cotemporaries, and of all ſucceeding ages.

We obſerve what degree of hope or of danger there may be in a diſeaſe, by weighing thoroughly, the paſt and preſent ſtate of the patient, with the paſt and preſent ſtate of the diſeaſe; and likewiſe, by meaſuring the ſtrength of the patient, with the apparent powers of the diſeaſe, and by keeping in memory what has always truly followed the ſame circumſtances, and the ſame ſigns. By an inquiry made with all poſſible care in this way, we are enabled to learn, whether our hope is deciſively well grounded, or doubtful, or falſe. Monteſquieu, in his laſt illneſs, enquired of his phyſicians, in what *ratio* were the hope and danger: they might have anſwered him in the Chineſe ſtile; a tenth, is for life; and nine-tenths, for death.

We become more perfect in the prognoſis, by bringing with us, to thoſe changes in diſeaſe, called *criſes*, the moſt attentive eye, and the moſt diſcreet reflection. We underſtand by criſis, the expulſion of morbific matter; which excretion is uſually productive of a ſenſible change, and terminates either in the cure, or death of the patient. With reſpect to theſe criſes, phyſicians diſtinguiſh, firſt, The time, during which the offenſive matter remaining unchanged in the ſtomach, inteſtines, or veſſels, or other parts of the ſyſtem, the excretions, are wholly different from their healthy ſtate, and the diſeaſe is exerting itſelf in a ſenſible manner. Secondly, The time, when the morbific matter, being ſufficiently attenuated, and rendered different from its preceding ſtate, and nearly ſimilar, though not wholly ſo, to a healthy ſtate, prepares itſelf for being thrown out of the ſyſtem; at which time, the diſeaſe begins to decline. Thirdly, The time, at which the criſis really takes place. (c) It was by an exact obſervation of the whole courſe of a diſeaſe, by noticing the increaſe, decline and ceſſation of all its ſymptoms, that the ancients familiarized themſelves with the theory of criſes. They conſidered obſervation, and a circumſtantial recital of theſe ſymptoms, as of the laſt importance; becauſe it was by theſe ſigns, they were able to form their prognoſtic in diſeaſes.

It is eſſential to know how to diſtinguiſh theſe different periods, and particularly that, in which all is determined by a criſis. The moſt experienced phyſicians agree, that this point is very difficult to attain; and, that there is always much danger, when we know not how to act on theſe occaſions; becauſe the ſigns of the criſis being eaſily confounded with the ſymptoms of the diſeaſe, we ſhall be liable to act amiſs in theſe moments, which are to decide, perhaps, the life, or the death of the patient.

(c) The doctrine of morbific matter, as occaſioning diſeaſes, and then being critically expelled from the body in a mild and harmleſs ſtate, which is what the ancients meant by concoction, begins now every day to loſe ground, as being repugnant both to reaſon and facts. That there are, however, particular days in acute diſeaſes, on which certain changes take place more frequently than on others, is agreed to by ſome of the moſt learned modern phyſicians. Dr. De Haen, Dr. Gaubius, and Dr. Cullen, may be mentioned as eſpouſers of this doctrine, though they differ as to the way in which theſe changes are effected. There are others, again, of no little note, who deny the exiſtence of critical days, at leaſt, in theſe parts of Europe. It would be impoſſible to diſcuſs this matter here. The reader will find much information on this ſubject, in De Haen's *Ratio Medendi*, the *Inſt. Path.* of Dr. Gaubius, Dr. Cullen's *firſt lines of the practice of phyſic*, Macbride's *Introduction to the practice of phyſic*. M. Le *Roy* ſur le Prognoſtic, *&c.*

Theſe different periods, will be known, by attending exactly to all the circumſtances which are eſſentially and immediately connected with life; ſuch as the pulſe and reſpiration; and to theſe, we may, perhaps, add the urine. The firſt period is not ſo difficult to diſcover; but the ſecond and third are extremely ſo. Boerhaave has given the marks of approaching criſis, in a maſterly manner. Theſe marks are to be diſtinguiſhed by the *vis vitæ*, which overpowers the action of the diſeaſe; whereas, the ſymptoms are derived wholly from the power of the diſeaſe, which is ſuperior to the *vis vitæ*. The former appear only when every thing is prepared for a good criſis: whereas, the latter are ſeen in the firſt period of the diſeaſe; and eſpecially, in its increaſe. The ſigns of criſis relieve the patient, which is not the caſe with the ſymptoms.

The ſigns of an approaching criſis, but which are not conſtant, are, in ſome degree, to be drawn from horripilatio, increaſed motion of the blood, after the ſenſation of cold; pain, inquietude, and generally ſome change in the ſtate of the head and breaſt, in conſequence of the increaſed rapidity of the circulation; now and then, from changes to be perceived in the parts, through which nature meditates the critical excretion; ſuch as itching, tenſion, redneſs, tremor, *&c*.

The excretion will be, either of blood from the noſe, or hemorrhoidal veſſels, or from the uterus in women; or by abundant expectoration, or vomiting and diarrhœa; by a conſiderable diſcharge of urine, accompanied with a copious ſediment; by ſweat;

or by an abſceſs, in ſome part or other of the body. Sometimes the criſis conſiſts in the concurrence of ſeveral of theſe excretions; ſometimes only one of them takes place.

It is certain, that theſe ſigns, and the phenomena, that follow them, would be miſtaken for the ſymptoms of the diſeaſe, if they appeared at any other period, or were not ſoon followed by a ſenſible relief, or if they had any other apparent cauſe. Sometimes, too, they would be conſidered as moſt fatal appearances, at a time, when the patient is on the eve of recovering his health. This error is not uncommon with thoſe who are but little inſtructed in ſymptomatology.

I had the care not long ago, of a young lady, ill with an acute fever, which terminated very happily. The patient's imprudence occaſioned a relapſe, and the ſecond diſeaſe was much more violent than the firſt. On the ſeventh day, I found her much agitated, after having had a very reſtleſs night. All the ſymptoms were very alarming, and the heat was exceſſive. About noon, ſomebody came to tell me, that the patient was quite cold: I immediately went to her, and found, indeed, her face (which in the forenoon had been florid and burning with heat) very pale; her lips were blue, her nails livid, and her whole body in a cold ſweat. The patient ſeemed to be exceedingly weakened. The pulſe, which in the morning was very quick, was now become quite ſlow. Theſe circumſtances led me to conclude, that a criſis was at hand, and I even gave the patient and her friends joy on the occaſion. They were not a little ſurprized at this, but a critical ſweat took place the ſame day. Kloekhof calls the critical ſweat, which comes on at the beginning of horripilatio, an irregular phenomenon, although he admits it ; and he ſays, at the ſame time, that in the criſes which are ſpeedily performed ; and eſpecially, with ſuch-like critical ſweats, the pulſe not only becomes exceedingly low, but even altogether inſenſible. This rule, however, is not always without exception.

A bad criſis diſtinguiſhes itſelf from a good one, by being always premature ; the fever which accompanies it, is likewiſe more violent, and the excretion leſs ſalutary, nor is the relief obtained by it, durable. They both of them reſemble each other in ſome meaſure ; but there are certain particularities peculiar to each, which do not eſcape the eye of the obſerver, if he attends carefully to every thing. The criſis is bad, if the diſeaſe changes its ſeat, or terminates in death. A prudent phyſician leaves a good criſis to itſelf, and endeavours to oppoſe himſelf to the bad one. The criſes, which can neither be deemed good nor bad, are to be judged of, and treated according to, the indications which their eſſential character may afford. Hippocrates kept no account of trifling criſes.

Although nature does not ſeem to obſerve the ſame regularity in every criſis, yet the reality of them cannot reaſonably be doubted. Hippocrates did not always expect them in acute diſeaſes, but his writings prove, in the moſt inconteſtable manner, that they did in general happen. With reſpect to our climates where the air is colder, or to thoſe in which it is leſs pure than in Greece, we muſt expect ſome variation in the critical days, and in the ſigns that indicate them; becauſe, beſides the difference of climate, our regimen is leſs exact, and our care often more ſteady from the greater number and efficacy of our remedies.

The duration of a diſeaſe, depends on its particular character, and preceding cauſes; and on the regimen and curative means we employ, to imitate or aſſiſt nature in all her ſalutary efforts. There are many phyſicians who prefer ſaving the life of a patient by phlebotomy, to the waiting for the uncertain aſſiſtance of a critical hemorrhage; or to facilitate, by the ſame means, the eruption of the ſmall-pox, rather than wait for it amidſt conſiderable pain. They, likewiſe, had rather accelerate a ſweat, by a plentiful uſe of ſome watery drink, than wait for a critical ſweat. Hippocrates, himſelf, thought it neceſſary to ſupport and aſſiſt nature by artificial means, in the critical terminations of pleuriſy and inflammation of the breaſt.

All the ſigns relative to the prognoſtic, are very intereſting for the phyſician, becauſe it is particularly on this, that the patients, and thoſe about them, interrogate him the moſt. He ought, therefore, to be able to foreſee danger, and to go before it, as it were, with the neceſſary remedies; and not to diſconcert or prevent a favorable criſis, or interrupt nature, by his operations. It was by their ſkill in the prognoſtic, that the ancient phyſicians acquired ſo much reputation; and it was this ſkill that led the Athenians to erect a ſtatue in bronze to Hippocrates, to admit him next to Hercules. in the Eleuſinian ceremonies, and to vote a public maintenance for him and his family, in the Prytaneum, while Alexander, amidſt all his victories, was hardly able to draw from them an acclamation.

In general, the true ſigns of diſeaſes are either the effects of the diſeaſe, or conſequences deduced from theſe effects. A ſkilful obſerver will, therefore, not always arrange the ſigns amongſt the cauſes; he will not conſider the rattling in the throat of a dying perſon, as the cauſe, but as the ſign, of death. He will be very reſerved in the judgment he paſſes on ſigns, conſidering as ſuch. only what is derived from the eſſence of the diſeaſe itſelf, and eſtabliſhing no prognoſtic, but on theſe grounds. By adhering to ſuch a plan, he will every day acquire ſome new addition to his Experience. As he becomes acquainted with the true ſigns of individual diſeaſes, he will be enabled to diſtinguiſh compound ones, and to regulate his conduct according to their true type, whether it be ſimple or compound.

The credit of phyſicians and phyſic, would be every day more and more eſtabliſhed, if they were not too apt to precipitate their opinions. It is well, when a phyſician can be able to ſay to himſelf, "*I* "*have never been in too great a hurry*".

Soon after I ſat out in practice, a young woman came to conſult me, at Berne. She told me that ſhe had had an ague, and that when this was ſtopped, her belly began to ſwell. I aſked her if ſhe was ſure ſhe was not breeding: ſhe ſeemed to be hurt by the ſuppoſition, and replyed, with no little warmth, "that this was impoſſible, becauſe ſhe had never known "a man". I therefore ſuppoſed the caſe to be a tympany. It was not long before this girl was delivered of a fine boy, and the diſorder diſappeared. I have known ſeveral phyſicians, not a little conceited of their own merit, who have made miſtakes of the ſame kind. Even Drelincourt, who was profeſſor of anatomy, at Leyden, was of opinion, that a dropſical girl was with child. Saltzmann, profeſſor of anatomy, at Straſburgh, aſſerted that a young woman who was breeding, was dropſical; and it was but the other day, that the Margravine of Baden-Dourlack was treated as dropſical, till within four days of her being brought to bed.

A phyſician, who goes ſo far as to predict what is to happen, can, on many occaſions, ſay only, that it is probable ſuch an event will take place; ſometimes, however, it is impoſſible to foreſee this probability. The probability of a prediction, is founded on the effects that have been obſerved in ſimilar caſes: theſe effects are, therefore, to regulate the conduct of the obſerver. It is not ſuppoſed, that they who collected together the predictions of Hippocrates, eſpecially his *Prænotiones Coacæ*, waited till they had ſeen as many ſimilar caſes, as were neceſſary to eſtabliſh the higheſt poſſible degree of probability. Hippocrates had, indeed, before his eyes, the obſervations made by the family of Eſculapius; ſo that he was able to enrich himſelf from their Experience. Notwithſtanding this advantage, however, he was ſo well aware of the great difficulty there is in forming a probable prognoſtic, that he does not heſitate to ſay, that it is very eaſy to be deceived. "The prog- "noſtic in acute diſeaſes", ſays he, "is uncertain, "and it is impoſſible to ſay, infallibly, whether the "diſorder will terminate in death, or in recovery". For this reaſon it is, that he complains of the phyſicians of his times, who, by their vain predictions, brought into ridicule, an art which is of ſo much importance in phyſic. Thoſe Greek quacks were like the quacks of our days, who foretel that a patient who has not a catarrhal fever in the Winter, will have an eruption on the ſkin in the Spring; or, if he has not this eruption in the ſkin, that he will be mad in the Summer, or die in the Autumn.

Sometimes phyſicians, who are really not empirical ones, draw diſgrace on themſelves, by indulging too lightly in this taſte for prediction. A Swiſs phyſician, whom the good women conſider as the moſt experienced in the town, merely becauſe he happens to have more money than the reſt of his brethren, was ſent for, not long ago, to viſit a very handſome lady. She had been long ſick, and waſted inſenſibly. This loſs of fleſh was attributed to an ulcer in the lungs, in the liver, or in ſome of the other viſcera. This great phyſician viſited his patient moſt aſſiduouſly, and at length predicted certain death, if ſhe ſhould be attacked with diarrhœa. Another phyſician, who paſſed for a man of very moderate abilities, though he was acknowledged to be a good ſcholar, was next called in. This one gave his opinion, and at the ſame time, his prognoſtic. "Nothing", ſays he, "Madam, but a "diarrhœa, can ſave you". A diarrhœa came on, and the terrifying impreſſion made by the firſt and moſt faſhionable phyſician, having more weight than the favourable prognoſtic of the ſecond; the good lady embraces her huſband and children, bids a laſt adieu to all her friends and relations, and then has ſixty ſtools in ſixteen hours, and recovers.

An empiric does not heſitate to aſſure the people, that he not only knows a diſeaſe at firſt ſight; but that he can tell at once, what will be the event of it. It is indeed true, that an experienced phyſician will be able, on the firſt day of a diſeaſe, to judge, from the violence of the attack, the gravity of its cauſes, and other particular circumſtances, that it will be a very dangerous one; but it is only in very rare and fatal caſes, that we can be able to diſcover the ſigns which, from the firſt attack, indicate, that the termition of an acute diſeaſe, will be in death.

Will it be thought, that what I advance on this head from daily Experience, proceeds from a deſire to ſcandalize my brethren; or that I give it as an obſervation ſufficient to quiet an honeſt man, who with the knowledge he happens to poſſeſs, does his duty as well as he can? Do we not every day ſee pretended phyſicians, unworthy as they are of ſo reſpectable a title, proclaiming aloud, that ſuch a diſeaſe is nothing at all; and this, merely, becauſe it is not treated by them; that it may be cured by the moſt trifling remedies; and this, with the view of getting the patient into their own hands, though he is, perhaps, under the care of ſome reſpectable and ſkilful phyſician. If their artifice ſucceeds, they treat the patient in their own way, and continue their uſual language during the firſt day or two. But if the diſeaſe, from its own nature, or their improper management, becomes more alarming, they then alter their tone, and foretel the death of the patient; and this from the improper treatment of the other phyſician. If the patient recovers, they and the public are ready to cry out, "This new doctor has "cured him". If he dies; it was the firſt phyſician who killed him. "*We knew*", ſay they, "*from the* "*moment we ſaw him, that he was irrecoverable; but* "*we were unwilling to alarm the patient or his fa-* "*mily*".—It is in this way, that many of our modern quacks are ſeen to act every day.

It is only the ſmaller number of diſeaſes, that preſent themſelves by ſigns, which enable us to ſay, "*This is certainly ſuch a diſeaſe, and no other*". We ſhould at once know the ſigns, were we acquainted with the proximate cauſes of diſeaſes; but it is uſually, only by the combination of many ſigns, that we are able to diſtinguiſh a diſeaſe; and theſe ſame ſigns, if conſidered ſeparately, would be unequal to the purpoſe.

Every diſeaſe may be ſaid to be ſimple, if you will, becauſe ſymptoms that are apparently the moſt complicated, are conſtantly founded on ſome very ſimple principle; but to this, the human eye never yet has penetrated. It is true, that the principle of all the ſymptoms that are occaſioned by a ſtone in the bladder, is known, the moment we feel the ſtone with the ſtaff. But how many times, and in how many ways, has not this ſymptom, in this caſe, been referred to every thing but this true cauſe, in the very diſeaſe of which I am ſpeaking? The books of Surgery ſufficiently prove this. *(d)*

Since, therefore, only a very ſmall number of diſeaſes can be known by their deciſive ſigns, we are obliged to judge of the preſent and the future, by combining theſe ſigns together, and reaſoning from analogy. It is not always eaſy to determine the ſpecies of a diſeaſe, becauſe it is not accompanied with ſigns ſufficient to lead the obſerver to a determinate opinion. In theſe caſes, therefore, he muſt neceſſarily reaſon from analogy; and this is often ſo difficult, that the ſimilar circumſtances, which occur in the moſt oppoſite caſes, often deceive the moſt experienced phyſician; or the ſigns are ſo equivocal, that they may be equally applied to ſeveral ſpecies.

The greater number of ſpecies are leſs to be diſtinguiſhed, by their deciſive and particular ſigns, than by the combination of theſe ſigns. This

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(d) When Mrs. Stephens offered her remedy to parliament, ſome medical gentlemen were named to aſcertain its efficacy. A patient, who was to take this medicine, was ſearched, and the ſtone was felt in the bladder; he then took the remedy, and his complaints diſappearing, he was again ſearched, and no ſtone being felt, it was agreed that he was cured, and that the ſtone was diſſolved. Mrs. Stephens received her reward, and ſome time afterwards this patient died, and, on being opened, a large ſtone was found in a little pouch or ſacculus, which was, in fact, a part of the bladder, and communicated with it.

combination, is, in many caſes, tolerably clear; but for all this, we are not to imagine, with ignorant practitioners, that this is always the caſe. As nothing is difficult in the eyes of theſe people, ſo nothing ſeems obſcure to them. I love to hear a well-inſtructed phyſician ſay to me, as Sydenham does: "*I know not what to do, becauſe I ſee nothing*". If we were to attend cloſely to the conduct of ſome of our pretended Eſculapii, we ſhould ſee how embarraſſed they are by the leaſt complication. Not that they are at much pains to penetrate the obſcurity, but, as it is always to their intereſt to conceal their ignorance, they are conſtantly acquainted with claſſes, genera, and even the moſt minute ſpecies.

True phyſicians, on the contrary, are very often embarraſſed in the treatment of diſeaſes, becauſe their characters are ſo complicated, that it is impoſſible to diſtinguiſh them at once. The eye of genius perceives ſome lights, by means of Experience; but prudence checks a reſerved man, and obliges him rather to return ten times to a patient, and do nothing, than to do too much, and ſee nothing. A phyſician, who perceives all the ſigns of a given diſeaſe, thinks he ſees that diſeaſe: he is to a certain degree, authorized to think ſo. It may happen, however, that this diſeaſe does not exiſt, becauſe there are ſigns common to many diſeaſes. We, therefore, ought not to ſay that we *ſee*, unleſs we perceive, pretty clearly, how theſe ſigns differ one from another.

There are ſome diſeaſes, the complication of which, at once appears clear. It ſeems, ſometimes,

times, as if the different types that form the compound one, appear, as it were, diſtinct, of their own accord; and thus enable the phyſician, to determine the event, of the different parts of the complication. But this would often be liable to deceive, becauſe there are ſo many different diſeaſes, which afford the ſame ſymptoms and type, at leaſt to a certain degree, that a phyſician is always in danger of miſtaking, when it is neceſſary for him to judge of the complication of ſeveral diſeaſes. It is, however, true, with reſpect to fevers, that nature hardly ever complicates heterogeneous fevers, or fevers of different ſpecies; and yet, notwithſtanding this, as the complication of theſe fevers may be occaſioned by any other, than by that we ſuſpect, nothing can be pronounced, with certainty, as to their true character. The knowledge of particular types, which make up the compound one, will then be of no uſe, in regulating the conduct of the phyſician, in theſe caſes. He will do well, therefore, to wait, without being barely an idle ſpectator. And he is not an idle ſpectator, who knows how to watch the motions of nature, ſo as to be able to underſtand her hints.

Suppoſing that a patient has had ſome former diſeaſe, it is not eaſy to ſay, from the ſigns, how far that may influence the preſent complaint, or, whether the remains of that former diſeaſe, may not be conſidered, as the remote cauſe of this. What light will a phyſician derive from the ſigns, which an hereditary diſeaſe ſhall afford him? Theſe complaints, which commonly do not appear in the unhappy heirs, till after a certain number of years, are even then, very often changed and disfigured, according to the cauſe, which may happen to determine them, ſo that they appear quite different from the original diſeaſe. The ſigns, will, therefore, not be ſufficiently characteriſtical of the diſeaſe: and caſes of this ſort, are not uncommon. I have ſeen patients covered with an incurable leproſy, whoſe father had had only the lues; and of this he had been cured, or at leaſt, fancied himſelf cured, having felt no inconvenience from it, during the remainder of his life. The phyſician who had the cure of theſe children, when they came to years of maturity, gave them up as incurable. He had ſeen their diſeaſe return every year, notwithſtanding all his care, and he aſſured me, that the ſigns of the diſeaſe he then ſaw, were no longer ſuch, as he thought he had before ſeen.

There are, likewiſe, ſome very important caſes, in which, we can abſolutely derive nothing from the ſigns. A robuſt young man has been ſeen to live nineteen days, after a blow on the head, without any fever or other alarming ſymptom; and at the end of that time, to die, with the brain in a ſtate of putrefaction. Dr. Hirzel, of Zurich, had occaſion, not long ago, to ſee a man, who had, by accident, received from one of his friends, a mortal blow on the temple. The whole ſquamore part of the bone was fractured; under the fiſſure was a coagulum of blood which was ſpread over the *dura mater*, four inches in length, and one thick. The brain was compreſſed by this maſs; externally, the wound was ſo ſlight as not to paſs through the common integuments. The patient complained only of the head-ach, and was ſo little incommoded, as to ſend for a ſurgeon, only about two hours before his death.

At the opening of King George II. the aorta was found to be callous, at the lower border of its curvature, and ſo dilated, at its upper border, that it was become as thin as the fineſt paper. It was in that part that it burſt, and the rupture was ſucceeded by a mortal hemorrhage ; and yet, before his death, the King had not the ſlighteſt mark of diſeaſe, that ſeemed to claim any attention. He enjoyed very good health, and his uſual eaſe of temper, even to the moment of his death. Six years before this, he had had an abſceſs in his breaſt, which had been perfectly cured.

An officer, who was in garriſon at Huninguen, paſſed one evening very joyouſly with his meſs. He went home to bed, ſeemingly in the moſt perfect health. The next morning he was found dead in his bed. As he had lived very moderately, nor had taken any thing extraordinary the night before, no one could undertake to ſay, what was the cauſe of his death. The ſurgeon opens him, and finds the thorax filled with coagulated blood.

In caſes like theſe, what can the phyſician do, even though he ſhould be called in before the death of the patient ? What ſigns can inform him of the true nature of the complaint ? Theſe caſes, as do a thouſand others, unhappily prove, too clearly, with how much injuſtice, the public act, when they reproach phyſicians, with having ſeen nothing in caſes,

which

which, abſolutely, afforded nothing, that could be diſcovered.

The two caſes, related by Boerhaave, of the Baron Van Waſſenaer, and the Marquiſs of S. Auban, highly deſerve to be inſerted here. All phyſicians, who have read, are already acquainted with them; but all thoſe who give their opinions of phyſicians, do not read. Theſe two caſes are ſo exceedingly curious, and, at the ſame time, ſo applicable to this part of my ſubject, that I muſt beg leave to give, at leaſt, an abridged account of the particulars of each of them, as they are given us by that great maſter. Why, ſays Boerhaave, ſhould we not deprive thoſe people, who are ſo ready to aſperſe the conduct of true phyſicians, of every occaſion of doing harm. They ſeem only to enjoy the vile pleaſure, of fabricating and ſpreading all the popular notions, that are ſo prejudicial to ſincere writers: while truth is examined only by corrupt judges, who know not, or conſider not, its real worth.

The Baron Van Waſſenaer, Admiral of Holland, a man of a ſober diſpoſition, ſubject to attacks of the gout, in other reſpects, healthy, robuſt, endued with great qualities, and with an extraordinary firmneſs of temper, had accuſtomed himſelf to the taking an emetic, every time he thought he had ate too much. He conceived this method to be ſo very uſeful to him, that he continued to repeat it, as often as he fancied there was occaſion for it. It was to no purpoſe, that his friends and phyſicians diſſuaded him from this practice. Nothing, in his opinion, relieved him ſo much as a vomit; and he appealed, in proof of this, to his pretended Experience.

A meſſenger came one night to Boerhaave, to tell him, that the Admiral was in the agonies of death, perhaps already dead, at his country houſe. Boerhaave flies to his aſſiſtance, and finds him leaning forwards in his bed, and ſupported by three of his ſervants. In any other poſture, his pain became exceſſive. He was unable to lie down, either on his back, or his ſide, or his belly, and much leſs could he ſit on a chair. Boerhaave was the more alarmed at this appearance, becauſe he well knew, with how much fortitude, the Admiral had ſupported the moſt violent attacks of the gout, without once loſing his patience, or his courage, amidſt the moſt excruciating pains. The groans of this man, who on other occaſions, had been ſo patient and immoveable, alarmed him ſtill more.

The Admiral, at the ſight of Boerhaave, endeavoured to raiſe his head a little, and to give him his hand; but, on the leaſt motion, or the leaſt attempt to ſpeak, he appeared to be borne down with exceſs of pain. It was in vain, therefore, that he attempted to deſcribe his ſtate; at each attempt, the ſudden increaſe of his pain ſeemed to cut off his reſpiration.

One of the aſſiſtants then gave the following account. Three days before this diſorder, the Admiral had been preſent at an entertainment, where he had ate a little too much. The next day, he determined to prevent, by abſtinence, any ill effects that might reſult from this intemperance. The day before the attack, he had dined, with great moderation, and had got on horſeback in good ſpirits, and ſeemingly in good health, without the leaſt ſuſpicion of any approaching diſorder.

When returned from his ride, he abſtained from ſupper, according to his uſual cuſtom. At half an hour after nine o'clock, he drank three cups of *carduus benedictus* tea, as he had often done before. He was aſked, why he took the infuſion that evening: "becauſe," ſays he, "I feel ſome-"thing diſagreeable in the upper part of my ſto-"mach, and I have a mind to waſh it away". This ſenſation, he added, he had often felt before, and had always been relieved by vomiting. Soon after this, he puked, but with difficulty, and in ſmall quantity: he then took four more cups of the ſame infuſion, but without feeling any inclination to vomit, although he had drank ſo copiouſly. He directed more of it to be got ready, thinking to bring on a vomiting by force. While he was ſeated, and endeavouring to puke, he ſuddenly cried in a moſt horrible manner, and drew together all his ſervants, who were alarmed by his cries. The Admiral then told them that he had burſt, or torn, or diſordered ſomething at the upper part of his ſtomach; and, that the anguiſh he felt was ſo excruciating, he muſt certainly be near his laſt hour.

He then recommended himſelf to his Creator: a cold ſweat flowed from all his limbs; his face and his hands became pale, and his pulſe was no longer perceptible. He ordered them, to cover his head and breaſt with hot cloths, moiſtened with ſome ſtrengthening liquors. They did this; but he found no relief: on the contrary, the diſorder ſeemed to become more violent, and they judged that his death could not be far off. The phyſicians who were ſent for, being at ſome diſtance, the Admiral, about half an hour after this, took, of his own accord, four ounces of olive oil, and of this he threw up a ſmall quantity, together with ſome of the *carduus* tea. He then called for two ounces more, which he likewiſe drank, but without vomiting, or having the leaſt inclination to vomit; and his diſorder, all this time, went on increaſing. Half an hour after this, he drank about ſix ounces of warm Dantzick beer, which he likewiſe kept down without nauſea, as he did all that he drank afterwards.

This is what had paſſed, when Bye, a phyſician, whom Boerhaave has not left without his ſhare of praiſe, arrived from the Hague. When he ſaw the ſtate of the patient, he determined to give nothing of an active nature, till Boerhaave ſhould come. Theſe two phyſicians began, by conſidering the cauſes of ſo ſudden and cruel a pain, before they proceeded to any remedies. Both of them were convinced, that unleſs theſe cauſes could be aſcertained, no dependance could be had on medicines adminiſtered at random.

After the moſt careful examination, they could diſcover no other guide to direct them, than the of the pain, together with an uncommon ſenſation in the breaſt, of which the patient complained, but which, however, was inexplicable. In other reſpects, the Admiral was apparently healthy. He deſcribed the pain as being exceſſive, continual, and beyond all imagination. It did not relax a moment. He pointed out the ſeat of it to be at that part, where the oeſophagus terminates in the ſtomach; he then cried out, that the pain ſpread with the ſame violence towards his back. Before his death, he felt this pain through every part of his breaſt. It appeared, that his tortures were never ſo great, as when he felt an inclination to belch, and that the air, being ſtopped in its paſſage, inſtead of riſing, ſeemed to diſtract all the neighbouring parts. The diſorder likewiſe increaſed, whenever he endeavoured to bend himſelf backwards, or to ſit upright. This was all that his two phyſicians could diſcover, after all the inquiries and care imaginable.

At this part of the narrative, Boerhaave requeſts the experienced reader to pauſe with him awhile, and to reflect on the origin, the progreſs, the ſymptoms, and ſigns of this diſeaſe. He requires of him the firſt cauſe of theſe extraordinary effects. He had himſelf conſidered every thing, with the greateſt care, and had exerted all the powers of his underſtanding, to find out ſome fixed principle, by means of which, he might unravel this obſcure cauſe, and thus afford ſome relief to a diſeaſe, which hitherto ſeemed to be every moment increaſing. All his ſpeculations, however, were uſeleſs, and Boerhaave candidly confeſſes, that he found himſelf altogether unable to imagine, what could be the ſpecies, to which this diſeaſe could be referred. It afforded no ſign of inflammation. There could be no ſwelling ſuſpected, capable of producing theſe cruel ſymptoms, and ſo ſuddenly. The preceding circumſtances afforded no grounds for ſuch a ſuſpicion, and all the vertebræ were in their proper ſituation: nor could a diſplacement of the ſoft parts, within the thorax, be ſuppoſed capable of cauſing theſe torments.

There remained only ſome cauſtic and mortal poiſon to be ſuſpected, as the cauſe of theſe horrid ſymptoms; but no poiſon could be thought of, the effects of which agreed with the circumſtances of the Admiral's caſe. So, that of all the known cauſes of pain, not one could be fixed on as applicable to what he felt. It is well known that the gout, to which he was ſubject, might, by changing its ſeat, occaſion pain, anxiety, and vomiting; but it never produces pains, ſo excruciating as thoſe the Admiral complained of, in patients, who are in other reſpects healthy. Beſides, the gout exerts its effects ſlowly, and comes on, and goes off, by degrees.

Of all known diſeaſes, therefore, there was not found one, which could, by any affinity, throw any light on the Admiral's complaint, *a violent pain that had come on ſuddenly*. This was all that could be ſaid with certainty. Boerhaave knew, from the Experience of all ages, that the moſt acute pain, when not attended with inflammation, may long be ſupported. He was, therefore, led to conclude,

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that the Admiral's death would not not be immediate; and this was all his prognoſtic.

Uncertain as was the cauſe of this diſeaſe, it was neceſſary to think of ſomething, which might calm the pain. All the remedies, however, that were given, though of a very mild nature, ſerved only to add to the torments of the patient. Such was the melancholy ſituation of the Admiral, and of the two able phyſicians, who continued with him till five o'clock in the morning; when Boerhaave's affairs required him to be abſent. At going away, he very prudently adviſed Bye to leave nature, a little while, to herſelf, by not attempting to give even the mildeſt and moſt innocent medicines; ſince the beſt choſen ones, ſeemed, hitherto, only to have increaſed the complaints. His advice was followed, but without ſucceſs. The Admiral remained without any relief, till eight o'clock in the morning; and then Dr. Bye ſaw that the vital functions began to weaken, borne down, as it were, by the pain; but ſtill there was no new ſymptom, that could throw any light on the diſeaſe. He then wrote to Boerhaave, and in his letter propoſed ſome new remedies: Boerhaave agreed to their being tried; but their effects were equally fruitleſs with the former ones.

In theſe circumſtances, the Admiral ſettled his affairs. Boerhaave returned to him about three o'clock in the afternoon. The Admiral received him with the greateſt friendſhip, and, at the ſame time, told him, how inefficacious all the remedies had been, and how certain he was of the approaches of death, which he ardently wiſhed for, as a relief from his miſery. Boerhaave perceived, indeed, that this period was at hand: and about five o'clock the Admiral expired, with the utmoſt compoſure.

The two phyſicians converſed together in private, and confeſſed to each other, that it was impoſſible for them to conceive the cauſe of this diſeaſe, much leſs of ſo ſudden a death. They requeſted leave to open the body, and this was granted.

This diſſection proved, what no man would even have ſuſpected. Notwithſtanding the great quantity of drink the patient had taken, previous to, and during the attack, and of which he had voided no part, the inteſtines, and abdomen, and bladder, were empty. Nothing but air made its eſcape, when theſe parts were opened. There was no appearance in either of theſe, which could throw any light on the nature of the diſeaſe. The ſtomach was almoſt empty, it contained no blood, or bile, and but very little remains of aliment. At this appearance, Boerhaave was ſo aſtoniſhed, that he hardly knew whether he was dreaming or awake. Theſe are his own expreſſions.

He then proceeded to open the thorax, with the greateſt attention. The moment he had penetrated through the diaphragm, though he had taken care not to injure the lungs, a great quantity of air ruſhed out, and with no little noiſe. Boerhaave's wonder was increaſed by this, becauſe this phenomenon never happens, but when the lungs have been wounded The lungs, in this ſubject, appeared ſo ſmall and contracted, that they ſeemed to have been compreſſed, by ſome very great external force. The heart was perfectly healthy.

Boerhaave, on opening the breaſt, perceived a diſagreeable ſmell. He ſaid, at the time, that he ſhould have compared it to duck, if it had proceeded from the ſtomach. Somebody, who ſtood by, and heard this, immediately obſerved, that the Admiral had, indeed, eaten part of a duck, at his laſt meal. It was, then, that Boerhaave began to conclude, that he was going to diſcover a very different cauſe, from any, which might, till then, have been preſumed.

He no ſooner raiſed the right lobe of the lungs, than he found it ſwimming in a watery fluid, which filled the whole of the right cavity of the thorax. To his great ſurprize, he found this ſame water, and in the ſame quantity, in the left cavity. He found this liquor to be ſimilar to the little, that remained in the ſtomach. On drawing it off, it appeared of the colour of Dantzick beer, when mixed with an infuſion of carduus. The ſmell of it, was exactly like that of duck's fleſh. Upon the ſurface of this water was ſwimming, all the oil, the Admiral had ſwallowed. There was neither extravaſated blood, nor pus, nor any corrupted matter, to be ſeen, any where. The quantity of fluid, found in the thorax, amounted to an hundred and four ounces.

The nature of the diſeaſe, now became more and more manifeſt. But it ſtill remained to be diſcovered, how all that the Admiral had ſwallowed, had made its way into the breaſt. The left lobe of the lungs, was, therefore, carefully elevated, that Boerhaave might have a compleat view of the parts. Every thing appeared to him, to be in a healthy ſtate, until he came within about two inches of the diaphragm, to that part of the pleura, which lies on the left ſide of the oeſophagus. He there ſaw, diſtinctly, a part, which was very different from the reſt, by its mobility, and by its being ſwelled; and, at the ſame time, of a blackiſh colour. This part was round, and about three inches in diameter. In the middle of it, was an opening, of about an inch and a half long, and three tenths of an inch wide. Boerhaave preſſed this part ſlightly with his finger, and there immediately flowed out, into the cavity of the thorax, a fluid, which reſembled that which was before there. His aſtoniſhment was extreme.

He next attempted (taking care, at the ſame time, not to confuſe the parts) to introduce his fore finger, through this opening of the pleura. He found it ſoft, tumid, and open. Here, his attention, if poſſible, redoubled, becauſe he was unable to diſcover, in this wound, any traces of the oeſophagus. After having withdrawn his finger, a little, he puſhed it upwards, and came, at length, to that part of the oeſophagus, which was broken off.

Boerhaave could hardly believe what he ſaw. He called all the aſſiſtants to him, and ſhewed them, with the greateſt aſtoniſhment, a thing that was ſo unexpected. He then, with the ſame precaution, directed his finger downwards, and it paſſed eaſily into the ſtomach; and then, with a view of giving them a clear idea of the diſeaſe, he made an opening into the oeſophagus, about three inches above the wound, and then introducing his finger through it, it paſſed out at the opening, which had occaſioned the diſeaſe.

The cauſe of the Admiral's death, was, therefore, very clearly aſcertained to be a laceration of the oeſophagus; by means of which, every thing he drank, paſſed into the cavity of the breaſt, through the opening in the pleura, which took place at the ſame time. Boerhaave has proved, that the cardia, or upper orifice of the ſtomach, muſt have been cloſed, after the Admiral had taken ſeven cups of the infuſion of *carduus benedictus*, and of which he voided but little; becauſe, the more the ſtomach is filled, the more difficult it is to empty it. (*d*) We know, that when the ſtomach is full, the bottom of it comes forwards, while its upper part forms an angle, more or leſs acute, with the oeſophagus. All the Admiral's efforts to vomit, were, therefore,

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(*d*) This is an excellent obſervation, the truth of which, I have more than once ſeen confirmed, in perſons not eaſily diſpoſed to puke, who immediately after taking an active emetic, of antimony perhaps, have ſwallowed down a large quantity of warm water, and have ſo diſtended the ſtomach, as to be in great agony, though, at the ſame time, they were altogether unable to vomit.

chiefly exerted on the diaphragm and oeſophagus. It was in the midſt of theſe efforts, that the oeſophagus burſt, being unable, any longer, to reſiſt the motions of the ſtomach and diaphragm; and, being the more readily diſpoſed to rupture, by the irritation, occaſioned by the Admiral's finger, which he paſſed down his throat, in order to force a vomiting.

It was at that inſtant, that the Admiral cried out, and drew to him all his ſervants; telling them, with ſo much pain, that he had torn ſomething within him. But it does not appear, that the oeſophagus was lacerated to this degree, at once. The wound, was, probably, gradually increaſed, till the ſeparation was compleat. The ſtomach, when loaded with freſh drink, had driven it upwards, through this opening of the oeſophagus; and thus, the cellular texture, becoming diſtended, the pleura had, at length, burſt; and there was then a communication with the cavity of the thorax. The air, which abounds ſo much in alimentary ſubſtances, or which paſſed down the oeſophagus, had likewiſe filled a great part of the breaſt.

The death of the patient, therefore, took place, when the air was ſo abundant in the ſtomach, and cavities of the breaſt, that the lungs were no longer capable of being dilated; and thus, a ſtop was put to reſpiration, and, of courſe, to life.

All theſe circumſtances prove, that the Admiral's diſeaſe could be diſtinguiſhed by no certain ſigns; and, that the beſt curative means, would have been uſeleſs, even if the cauſe of the complaint had been known. It is, likewiſe, certain, that the ſame diſeaſe, happening now, in any other ſubject, would be equally incurable, notwithſtanding Boerhaave's accurate deſcription of the caſe. They muſt, therefore, be very unreaſonable people, who will reproach a phyſician, amidſt ſuch difficulties, with not having known what was to happen.

There were certain ſurgeons, however, who were illiberal enough, to ſay, that Boerhaave ought to have made an opening into the thorax, in order to draw of the liquor, that had paſſed into it. But it was firſt neceſſary, to find out, that ſuch an opening was required; and then, it muſt have been performed at both ſides, which, from the admiſſion of the air, into each cavity, at once, would have been, of courſe, fatal. Suppoſing the poſſibility of ſuch an operation; would it not have been impoſſible to have ſaved the life of the Admiral, without finding out ſome new channel for the ſupport of life? We ſee, by this, that there are, on all occaſions, perſons who are ready to blame, and who are never open to conviction, even though the truth lies beſore them.

The ſecond caſe, I ſhall beg leave to introduce here, has been likewiſe related by Boerhaave, with the ſame energy, and exactneſs, as the former one.

The Marquiſs St. Auban, was a ſtrong, active man, well formed, and of a very lively temper. He rode often on horſeback; loved hunting; and all this, without being ſenſible of fatigue. He drank very moderately, and ate indifferently of every thing; but preferred ſat meats and butter. He had been a little ricketty, when about three years of age; but this complaint ſoon diſappeared, as did a ſwelling of the abdomen, which came on, two years afterwards. When he was ſix years old, he was attacked with an acute fever, of which he recovered, without any diſagreeable conſequence.

During ſeveral years, however, he had been ſubject to an hereditary complaint. This was a painful enlargement of the hemorrhoidal veſſels. Theſe tumours became, at length, of a conſiderable volume, and poured out, every day, a quantity of blood. The blood, by being intercepted in its courſe, contracted ſo bad a quality, that the Marquiſs was unable to ſupport, any longer, the pain he felt there. The inflammation of the parts, ſometimes, ſeemed to threaten even gangrene. In theſe circumſtances, he conſulted Boerhaave, who, by the regimen and the remedies he preſcribed, completely cured him. The patient recovered all his ſtrength, and remained during eighteen months, without feeling any inconvenience. From the time that his cure took place, care was taken to attend carefully to him; that if any of the ill effects, that are ſo often occaſioned by a ſuppreſſion of the hemorrhoids, ſhould appear, they might, at once, be obviated. Boerhaave had adviſed this, becauſe Hippocrates, and all phyſicians after him, have obſerved, that a ſuppreſſion of the hemorrhoids, often occaſions other ſingular, and ſometimes, more dangerous diſeaſes; but, above all, from what had happened to the Marquiſs's father, who, having been ſubject to the ſame complaint, and diſabled by it from doing duty in the cavalry, had put a ſtop to it, by cauſtics, and inciſions, and continued free from the diſorder, during a year; at the end of that time, he was attacked by dyſpnoea; and, ſoon afterwards, with hemoptyſis, of which he died, in ten days.

But the moſt vigilant attention, during theſe eighteen months, could lead to no ſuſpicion, that the functions of the body were, in any way, injured. Boerhaave particularly obſerves, as a notable circumſtance, that the voice was, in no way, affected, during all this time; for the Marquiſs had a ſtrong, manly voice, and often amuſed himſelf, by ſinging. He preſerved the agility of all his limbs; and his breaſt continued to be ſo firm and well, that he never complained of fatigue, though he perſevered in uſing a great deal of exerciſe. Nobody could breathe with greater eaſe, than he ſeemed to do. Such had been the ſituation of the Marquiſs, from his infancy, till the appearance of the hemorrhoids, and from their being cured, till within ten months and a half of his death.

We have placed all theſe preliminary particulars, nearly in the ſame light that Boerhaave has done; that every penetrating phyſician, may be able to give a full ſcope to his reflection, on this occaſion. We are of opinion, that, in giving a hiſtory of this ſort, it is right to relate, in a very minute, and careful manner, all that relates to the natural habit of the ſubject; to his preceding diſeaſes, and their cure; together with his regimen, and mode of life; before we paſs on, to deſcribe the diſorder, of which he died. This care has often been deſpiſed, and ridiculed, by the ignorant, and the ſuperficial; but we concern ourſelves but very little, about ſuch incompetent judges.

It was, therefore, not, till within ten months and a half of his death, that the Marquiſs began to find his health affected. About that time, he began to feel a conſtant pain near the left ſcapula. This pain, afterwards, extended itſelf to the left ſide of the breaſt. As the pain increaſed conſiderably, it was ſoon felt, through the whole inſide of the thorax. A continual cough, rendered this pain ſtill more acute. The patient could get no reſt. When he coughed, it ſeemed to him, as if his ſides were torn aſunder. Phyſicians were called in. The diſorder was attributed to the gout; and remedies for the gout, were, accordingly, preſcribed.

Their attempts, however, were to no purpoſe. The pains ſeemed to aſſume a new force, after the uſe of theſe medicines, and fixed themſelves, more and more, to the left ſide of the breaſt; ſo that it was found impoſſible to remove their ſeat. Blood-letting, opening medicines, oil, opium, *&c.* were all given, without affording any relief. To theſe pains, after a certain time, there was added another, and infinitely more excruciating pain, which was felt immediately under the left breaſt, and ſeemed, as the Marquiſs expreſſed himſelf, as if the inſide of his breaſt was torn out, by violence. Tormented himſelf, to this degree, and tormenting all about him, by his lamentable and inceſſant groans, he could find no place, or ſituation, that afforded him the leaſt mitigation of his miſery. He uſually ſat upon his bed, leaning a little forwards, and reclining his elbows on his thighs. In this ſituation, he, now and then, at intervals, got a little reſt, and ſlept a few moments; but it was only to be waked ſoon, and on a ſudden, by a cruel exacerbation of the ſame relentleſs pain.

Such was the ſituation of the Marquiſs, when Boerhaave was deſired to viſit him, with his phyſician in ordinary, the ſame Dr. Bye, whom we have already mentioned.

When Bye related to Boerhaave, all the particulars of the diſeaſe, and the remedies, that had been employed to no purpoſe, they acknowledged, to each other, that it was impoſſible to ſay any thing, with certainty, either of the ſeat, or the nature of the diſeaſe. Bye preſumed, there was an abſceſs in the lungs; becauſe he had obſerved the patient expectorate a viſcid matter, after much agony. Boerhaave, however, differed from him, in opinion; becauſe, excepting the ſingular and urgent ſymptoms of pain, the Marquiſs was, in other reſpects, healthy. He was then aſked, what he thought of the nature of the diſeaſe. It was not, till after ſome conſiderable reflection, that he anſwered, that he really did not know what to think. He was inclined, however, to be of opinion, he ſaid, from the ſymptoms, that the organs, deſtined to dilate the breaſt, were unable to ſupport the contractions, eſſential to the action of each muſcle; and the parts of the breaſt, which required to be dilated, reſiſted to this dilation, at each inſpiration; and that, from this aroſe the violent pain, the difficulty of breathing, and the ſenſe of ſuffocation. The patient, and his friends, were ſatisfied with this reflection.

Boerhaave adviſed cataplaſms to be frequently applied to the parts, that are the moſt in motion, in reſpiration; as the ribs, cartilages, and ſternem. He likewiſe preſcribed emollient drinks, a ſparing diet, and the frequent inſpiration of the vapor of ſome ſoftening decoction. His preſcription was followed, and the patient found himſelf much relieved. His friends began to indulge hopes of his recovery. The pain never returned again, with ſo much violence as before, even till his death. How blind, and precarious, ſays Boerhaave, is the joy of us mortals.

At length, the cough returned, as it were, with new violence. Nothing could calm it, but opium; but this calm was not of long duration: his expectoration was exceedingly painful; and his reſpiration ſo difficult, that the patient was obliged to throw his neck backwards, to raiſe his breaſt; and, at the ſame time, to draw in his breath, with ſo frightful a noiſe, that it could be compared, only to the cry of a Bittern. Then, again, perhaps, for a few moments, the reſpiration would be more eaſy: but this relief was but trifling. He was obliged to be almoſt conſtantly ſeated upright, both night and day, with his neck ſtretched out, and his head raiſed. At the leaſt change of poſture, when he, by chance, ſlept for a moment, he felt the moſt horrid pain. If he attempted to lie down on his pillow, to repoſe himſelf for an inſtant, his face became black; the veins of his head, ſwelled; and his eyes, ſeemed to be burſting from their ſockets. He appeared to draw his breath, only from the bottom of his entrails. An hideous hollow ſound, ſeemed to be his only relief. If he attempted to ſpeak, a few words uſually revived all his pain.

Boerhaave remarked, with aſtoniſhment, that in the midſt of this deplorable ſtate, the pulſe was ſtill regular: nor did it begin to fall or vary, or become intermittent, till a few days before his death. The Marquiſs dragged on this unhappy life, till the 9th of July. At the leaſt return of the pain, his face became black. A clyſter, occaſionally thrown up, was now the only thing, that gave him any relief. The great ſtricture of his breaſt, perſuaded him, that his diſeaſe was hypochondriacal; and that this ſenſation was the effect of *flatus*. He was the more perſuaded of this, becauſe his appetite was ſo keen, that he would have eat to exceſs, if his ſervants had not taken care to prevent him. What he eat, ſerved only to increaſe his pain.

About eight days before his death, the hemorrhoids began to return; and this gave him great ſpirits. He now began to have hopes of being cured, and even reproached his phyſicians, with not having attempted to bring them back ſooner. On the 7th of July, he voided, by the anus, a conſiderable quantity of blood, which immediately coagulated. The next morning, the flux continued, and in greater abundance. The Marquiſs was ſo enlivened at this, that he attempted to make a few ſteps in his chamber, leaning upon his ſervants. The ſame day, he had a moſt craving appetite, and eat of many different things, ſwallowing every thing, juſt then, without any fear of ſuffocation. He likewiſe ſupped, with the ſame good humour; rejoiced at being able to do, what he had ſo long been incapable of; having, for ſome time before, not even dared to take any ſolid nouriſhment, without danger of immediate ſuffocation.

On the 9th of July, however, Dr. Bye found him again, in bed, after paſſing a moſt painful night. He ſeemed to be in the agonies of death. His face and neck, were conſiderably ſwelled: his face was of a dark complexion, and his eyes ſeemed as if ſtarting from his head. He was able, however, to relate what had happened in the night. He mentioned the danger he had been in, of ſuffocation; and deſired to be let blood. The phyſician refuſed this. You are determined, then, that I ſhall periſh, ſaid the Marquiſs. You would not, ſurely, wiſh, ſaid Bye, that I ſhould haſten your death. While he was ſpeaking theſe words, the ſuffocation increaſed. His face became quite black. He attempted to bid adieu to the Marchioneſs, who was by the bed-ſide; and then, yielding to his laſt efforts to breathe, bowed down his head, and expired.

Bye immediately informed Boerhaave of this event, to whom he had every day communicated the ſtate of the patient. Boerhaave came to him; and they were permitted to open the body.

Boerhaave, before this operation, was willing to reflect on all the circumſtances of the diſeaſe; to ſee whether he could not foretel, what he ſhould diſcover on diſſection; and thus, ſay what part was diſeaſed. But this great man candidly owns, that he was unable to determine any thing, before-hand; and he requeſts the reader to judge, for himſelf, from the circumſtances he has related, of what might be the eſſential cauſes of the Marquiſs's death, before he goes any farther.

The body was, externally, of a very healthy appearance; and, notwithſtanding the Marquiſs's long abſtinence, and extreme ſufferings, he was, by no means, emaciated. The abdomen only, was a little ſwelled. This tenſion, rendered Boerhaave very attentive. He even ventured to ſay to the aſſiſtants, that they were going to diſcover the cauſe.

On opening the breaſt, there immediately ſpouted out a ſtream of limpid, yellow, inſipid water. Boerhaave reflected a moment, on what this water might be, and whether it was not a dropſy of the breaſt, which had ſuffocated the patient, after cauſing ſo many ills. It continued to flow, during the diſſection, but in leſs quantity. The breaſt ſeemed to be filled with water, on looking into it, through this narrow opening. Boerhaave introduced his finger into it, and found the right lobe in its place, but adhering to the pleura. He went no farther, on that ſide, but opened the left cavity of the breaſt, and found, there, no water: but the whole lobe, from the top to the bottom, was adhering to the pleura. He then, carefully, laid this part of the thorax open; taking care, not to diſorder any part of its contents. The moment he had accompliſhed this, he ſaw, that from the neck, to the diaphragm, the whole of the cavity was filled with a white ſubſtance, of a ſound appearance, except that, in the middle of its ſurface, there was a little tumour, which included a fluid, of a milky colour, but not purulent This ſubſtance was pretty hard and uniform, through the whole of its ſurface. Boerhaave was ſtupified, at the ſight of this ſingular phenomenon. This ſubſtance was much more conſiderable in the left, than in the right ſide of the heart; and even, entirely filled it. This was the reaſon, why the lobe of the lungs, was preſſed ſo cloſe to the pleura, on that ſide, that neither air, nor blood, could penetrate it, any longer. The firſt ſeat of the diſorder, had, therefore, probably, been in the left cavity, under the ſcapula; and hence the pain the patient complained of, at the beginning.

This excreſcence had, indeed, extended to the right ſide of the breaſt; but ſtill, it was not ſo conſiderable there, as not to leave ſome room for the admiſſion of air, and for ſome degree of action to the lobe, on that ſide, in reſpiration. The great veſſels, however, and even the heart itſelf, with its pericardium, were puſhed ſomewhat out of their places. The reſpiration could, therefore, only take place, in this lower part of the right cavity of the thorax; becauſe, this excreſcence being at the top of the breaſt, where it is narroweſt, in the human ſubject, the lungs were preſſed down, towards the inferior part of the cavity, where the breaſt becomes ſomewhat wider. This, therefore, explains the extraordinary efforts, made by the patient, to draw his breath, from this lower part; the bronchiæ being compreſſed above, by this ſubſtance. Hence, too, the hollowneſs of his voice. Beſides all this, the right lobe was found adhering to the pleura, only at the upper part of the breaſt. About the middle, it was ſeen attached to this tumour; ſo that here was another hindrance to the action of this lobe.

Boerhaave attempted to ſeparate the whole of this ſubſtance, from the other parts, to which it was attached. It was impoſſible to take it out at once, and entire, on account of the pericardium, lungs, and great veſſels. He extracted it, however, in the beſt manner he was able, and found the weight of it to be, ſix pounds and three quarters. As it was light, in proportion to its ſize, ſome idea may be formed of its exceſſive bulk. The whole of this ſubſtance, was as white as ſnow. Here and there, appeared a milky fluid, on cutting into it. No veſſels, however, were to be perceived in it, excepting thoſe, to which it was attached. Except the ſkin, that incloſed the whole, there was no appearance of any cauls, or cavities, or membrane, within. If any portion of this ſubſtance, was rubbed between the fingers, it melted like fat oil. It was, therefore, in Boerhaave's opinion, the true *ſteatoma*.

The diſplacement of all the thoraice viſcera, was altogether ſingular. This ſubſtance had puſhed the diaphragm downwards; and this had occaſioned the tumeſaction of the lower belly, which Boerhaave noticed, at the firſt, as a ſingular appearance. The pericardium, being united to the diaphragm, had followed ſollowed it, and, of courſe, removed from its natural ſituation. This was followed by a depreſſion of the great veſſels. We have already ſeen the ſtate of the lungs.

Here, then, was a new example of human miſery. A mild, unctuous, and innocent humour, occaſioned, by its abundance, a ſingular diſeaſe, and death; and this, from its fixing itſelf, in too great a quantity, on parts, which can, in no degree, be compreſſed, without danger. We learn, from this, therefore, that, in extraordinary diſeaſes, we may reaſonably ſuppoſe ſome hidden and unknown cauſe, which anatomy alone, can be likely to explain.

It were to be wiſhed, ſays Boerhaave, that the experienced phyſician might be able to diſcover the ſource of a ſimilar complaint, from his firſt ſeeing the patient; and that he might, then, be able to prevent this fat from ſpreading, ſo as to form ſo deſtructive a maſs. We might then hope, to be able to prevent the diſorders it occaſions; becauſe, it is impoſſible to reſolve, or diſſipate, a ſteatoma that is once formed, unleſs its ſituation ſhould admit of manual operation.

Boerhaave confeſſes, that he knew no medicine, that would prevent a beginning ſteatoma from enlarging; and that which is not to be done externally, muſt be much leſs poſſible within. Every time, therefore, ſays he, that I hear great talkers, vaunting their remedies, for this purpoſe, I wiſh to ſee them cure ſchirrous tumours; occult, and ulcerated cancers; meliceris; ſteatoma, *&c.* by certain means; and thus give us a proof of their art. As for my part, I have obſerved, that all prudent, and experienced phyſicians, allowed their inſufficiency, on theſe occaſions, though they did it with regret.

It would ſeem, as if Boerhaave might meet with ſome reproaches, for his method of treating the Marquiſs, before this complaint.

Nothing could be more grateful, to the ignorant, and illiberal, men of little minds, and of a narrow way of thinking, than an opportunity of cenſuring ſo great a genius, as Boerhaave. There are, even now, perſons of this diſpoſition, who, in reading this narrative, will, perhaps, be led to aſcribe the diſorder of the Marquiſs, to the ſuppreſſion of the hemorrhoids. But the great Boerhaave has replied to theſe frivolous judges, by ſaying, that a ſteatoma cannot be derived from the cure, or the ſuppreſſion of the hemorrhoids; that he had cured them, neither by cauſtic, nor by any other external application, but by mild, emollient, and deterſive remedies; and that no ſigns of plethera had been perceived, when the hemorrhoidal flux began to diminiſh. In ſhort, ſays he, with his uſual candour, and dignity of mind, let every one judge freely, and ſincerely for himſelf; I have deſcribed the diſeaſe, ſuch as I ſaw it.

The phyſician, therefore, as well as the mathematician, has fulfilled his duty, when he has proved, that a difficulty, is, in every ſenſe, and point of view, inexplicable. He, who proves a diſeaſe to be impenetrable, and, of courſe, incurable, deſerves as much of our eſteem, as he, who points out the ſeat of a diſeaſe, and the method of curing it.

BOOK IV.

Of the Obſervations of Signs, deduced from the leading Phenomena of the Animal Oeconomy.

CHAP. I.

Of Signs derived from the Pulſe.

IT is difficult to underſtand every thing, that is ſubmitted to our ſenſes; and ſtill more ſo, to diſcriminate them properly. Sometimes, this may ariſe from want of ſagacity; and, ſometimes, from a failure of attention. Diſcernment, or a readineſs to diſtinguiſh one diſeaſe from another, is founded on an exact knowledge of the ſigns of each. Sagacity is a gift of nature; whereas attention is merely an effect of our will. Both theſe are required, to give diſcernment; and, therefore, without ſuch a combination, there can be no true talent for obſervation.

The firſt, and, in theſe times, the moſt general ſign of diſeaſe, is derived from the ſtate of the pulſe. The ancients, unleſs we conſider the Chineſe as ſuch, do not ſeem to have attended much to this matter. Hippocrates, was, indeed, acquainted with the pulſe; but he ſeems to have been at little pains to aſcertain the number or variety of its pulſations. Herophilus, was, probably, the firſt, who conſidered it as a leading ſign, in diſeaſes, and who aimed at aſcertaining its variations, with exactitude. Galen was deſirous of carrying his obſervations in this way, to a degree of minuteneſs; but, in the ſixteen books he has left us, on this ſubject, we often find him indulging in idle ſpeculations, and endeavouring to eſtabliſh rules, which had their foundation only in his imagination, and the vain philoſophy of the times, in which he lived. The moderns, have, at different times, attempted to improve this branch of the art, by adding to the diſcoveries of their predeceſſors, or correcting their errors. Solano was perſuaded, that he had diſcovered a number of different pulſes, which, till his time, had been unnoticed.—Other phyſicians, ſince Solano, have followed him, in endeavouring to derive new indications from the pulſe. *(n)*

(n) "All, who begin the ſtudy of phyſic", ſays the learned and ingenious Dr. Heberden, "muſt find, in the doctrine of "the pulſe, as collected from medical writers, by Bellini, and "others, a great deal, which they do not underſtand: and all, "I imagine, who have advanced a little in the practice of "phyſic, can have very little doubt of its not being underſtood

The intention of the phyſician, when he feels the pulſe of a patient, is to aſcertain the degree of ſtrength, with which the heart drives on the blood into the arteries. It were to be wiſhed, then, that the obſervations in this way, might be made, by carrying the hand immediately to the breaſt; but the

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“ by the authors themſelves. There can be no pretence, be-
“ fore this audience, for waſting any time in ſhewing, that
“ minute diſtinctions of the ſeveral pulſes, exiſt chiefly in the
“ imagination of the makers; or, at leaſt, that they have little
“ place in the knowledge and cure of diſeaſes. Time, indeed,
“ has ſo fully ſet them aſide, that moſt of theſe names of pulſes,
“ are now as unheard of, in practice, as if they had never been
“ given: and it may be doubted, whether ſome of thoſe, which
“ are retained, are perfectly underſtood, or applied, by all,
“ to the ſame ſenſations, and have, in every one's mind, the
“ ſame meaning. I have, more than once, obſerved old and
“ eminent practitioners, make ſuch different judgments of
“ hard, and full, and weak, and ſmall pulſes, that I was ſure
“ they did not call the ſame ſenſations by the ſame names.

“ It is to be wiſhed, therefore, that phyſicians, in their
“ doctrine of pulſes, and deſcriptions of caſes, had attended
“ more to ſuch circumſtances of the pulſe, in which they could
“ neither miſtake, nor be miſunderſtood. Fortunately, there
“ is one of this ſort, which, not only on this account, but like-
“ wiſe for its importance, deſerves all our attention. What
“ I mean, is, the frequency, or quickneſs of the pulſe, which,
“ though diſtinguiſhed by ſome writers, I ſhall uſe as ſynony-
“ mous terms. This is generally the ſame, in all parts of the
“ body, and cannot be affected by the conſtitutional firmneſs,
“ or flacidity, or ſmallneſs, or largeneſs of the artery; or by
“ its lying deeper, or more ſuperficially; and is capable of be-
“ ing numbered, and, conſequently, of being moſt perfectly de-
“ ſcribed, and communicated, to others”. *Medical Tranſact.*
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delicacy of our manners prevents this, eſpecially amongſt female patients. The degrees of the celerity, ſtrength, and regularity of the pulſations, are, therefore, the phenomena we ſeek after, at a diſtance from the heart, by feeling the artery at the wriſt.

According to the difference of climate, ſeaſon, age, ſex, temperament, paſſions of the mind, *&c.* the pulſe will be found to beat, with more or leſs frequency, in a given time. By knowing the ſtate of the pulſe, in a healthy perſon, we are the better enabled to aſcertain the variations it undergoes, in the ſame ſubject, in diſeaſe; becauſe, although the cauſes we have mentioned, may, and will, occaſion conſiderable differences, yet ſome degree of affinity will, uſually, be perceived, by the ſkilful obſerver. The common effect of fevers is, to augment the number of pulſations. The degree of quickneſs ſhould be determined, by a ſtop watch. Let us ſuppoſe, that, in a middle aged perſon in perfect health, the pulſe beats, from ſeventy to eighty ſtrokes, in a minute: If we find it, at any time, beating eighty-five, we may conclude, that there is, already, ſome degree of fever. At a medium, in fevers, the pulſe will be found beating, perhaps, an hundred and ten, or an hundred and twenty ſtrokes, in a minute.—The greateſt quickneſs of pulſe, may be ſaid to be, an hundred and forty; becauſe, beyond that number, it is impoſſible for the finger to diſtinguiſh the pulſations. (*o*)

(*o*) "Though it be difficult to count above 140 ſtrokes, in "a minute, if they be unequal in time, or in ſtrength; yet, "where

It is eaſy to determine the degree of fever, by the number of pulſations. A man in health, ought, in general, to have a ſomewhat ſlow, but not a weak pulſe. In all ſubjects, the pulſe beats more ſlowly, in the morning, than at night. But whenever the pulſe varies much from its natural ſtate, we may conclude, there is fever, unleſs this quickneſs appears to be the effect of ſome tranſitory cauſe; ſuch as exerciſe, fear, *&c.*—If the number of pulſations increaſes every day, in this fever, the danger will be proportioned to the other circumſtances attending it; becauſe, in acute fevers, the number of ſtrokes is always the greateſt, in the hour of death. If the number of ſtrokes be much greater in the morning, than it ought to be, in health, we may expect, that the enſuing night, will be a bad one. But if the pulſe, inſtead of augmenting in quickneſs, becomes ſlower at night, we may conclude, that the diſeaſe is on the decline.

In chronic diſeaſes, that are not attended with fever, the number of ſtrokes, is ſometimes leſs, than in health. This ſign is, often, of extreme importance, in theſe diſeaſes; and the phyſician would do well, to count the diminution, as well as the increaſe, in the number of pulſations, by means of his ſtop-watch.

" where they have been diſtinct, I have been able to " count 180". This quotation is likewiſe, from Dr. Heberden's Paper, referred to in the former note.—The reader will find in it, many other curious, and uſeful obſervations, on this ſubject. S.

Every phyſician, who has ſeen any thing of practice, knows how often the hyſteric paſſion aſſumes the appearance of other diſeaſes. A great diminution in the frequency of the pulſe, is, in many caſes, the only ſign of the moſt painful attacks of this complaint, which might, otherwiſe, be miſtaken for an inflammatory diſeaſe; becauſe, the moſt acute inflammations, do not always announce themſelves by fever; (*p*) and the ſlowneſs of the pulſe, affords a much more certain diagnoſtic, in theſe caſes, than the paleneſs, or clearneſs of the urine. The patient may be ſuppoſed to be nearly recovered from this attack, when the pulſe becomes quicker and fuller.

The degree of ſtrength, with which the pulſe beats, is to be eſtimated by the ſtate of the patient, when in health. In weak, and delicate ſubjects, it may be expected to be feeble, and ſcarcely ſenſible, and *vice verſa.* With reſpect to ſtrength, the pulſe may be ſaid to be either full, or ſtrong, or hard, or ſoft, or weak. I conſider the ſtrong pulſe, and the full pulſe, as the ſame; at leaſt, they always occur together, in healthy ſubjects. A ſtrong man, in good health,

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(*p*) It is, by no means, a conſtant effect of pain, to quicken the pulſe.—A patient has felt the moſt exceſſive torture, from a gall-ſtone paſſing through the ducts, without having his pulſe, in the leaſt, quickened.—Dr. Heberden conſiders this natural ſtate of the pulſe, joined with the vehement pain, about the pit of the ſtomach, as the moſt certain diagnoſtic in this illneſs. S.

has, commonly, a full, but ſlow pulſe: this proves the quantity of blood, and the power of the heart, and that there is no morbid irritability. When the pulſe is both full and quick, we may argue ſome change in the ſyſtem; and this change will appear to be ſtill greater, if the artery riſes a little more, and conveys the idea of ſtrength.

The pulſe is ſtrong and quick, in continued fevers that are not attended with inflammation, and likewiſe in intermittents. Boerhaave conſidered this pulſe as a good ſign, if it was equally ſtrong, in every part of the body. It is liable to deceive us, only in apoplexies; becauſe theſe are ſometimes occaſioned by obſtructions in the abdominal viſcera.

The pulſe may be ſaid to be hard, when, by the ſmartneſs of its ſtroke, it ſtrikes like a hard ſubſtance againſt the finger. Sometimes the pulſe is hard, in old people; becauſe, in very advanced life, the arteries harden, and even become oſſified, or cartilaginous. In theſe ſubjects, however, the hardneſs of the pulſe, does not denote illneſs, till it is accompanied with frequency. Hardneſs, and frequency of the pulſe, when joined with local pains, are the diagnoſtics of inflammation, in acute fevers. While this hardneſs of the pulſe continues, we may conclude, that the inflammation ſubſiſts. It proves, too, at the ſame time, that the patient's ſtrength is kept up, and of courſe, that more blood may be drawn off.—To this obſervation, however, there are ſeveral exceptions.

The pulſe is ſoft, when the blood, notwithſtanding the fulneſs of the artery, is ſo feebly driven forwards, that the artery riſes but very little. In dangerous peripneumonies, the pulſe is ſoft, becauſe the cellular ſubſtance of the lungs is ſo diſtended with blood, that the left ventricle of the heart, can drive out but a very little of this fluid at a time. It is, therefore, a favourable ſign, when the pulſe becomes fuller, after expectoration. This change proves, that the courſe of the blood, through the lungs, is performed with more freedom.

The pulſe is ſaid to be weak, when the artery beats ſo feebly, as hardly to afford any perceptible impreſſion to the finger. This ſort of pulſe, ſometimes occurs in fat people, in good health. Sometimes, too, I have met with it in people, whoſe arteries were ſo ſmall, as hardly to be felt. The pulſe is commonly weak, in malignant fevers. It is likewiſe, generally weak, and very quick, towards the cloſe of acute diſeaſes, that terminate in death. In general, this ſort of pulſe is a dangerous ſign in theſe diſeaſes. The pulſe is commonly very hard, in the beginning of an inflammation of the inteſtines; and if the remedies made uſe of are ineffectual, the pulſe, about the ſecond or third day, becomes very ſoft and quick. When the inteſtines are in a gangrenous ſtate, the pulſe, from its extreme ſmallneſs, becomes almoſt imperceptible. Weakneſs and ſlowneſs of the pulſe, joined with local pain, indicate ſpaſm: and extreme weakneſs, joined with extreme ſlowneſs of the pulſe, denotes ſyncope to be either preſent, or about to take place.

The order and affinity, which the pulſations preſerve among themſelves, afford a vaſt field of obſervation to the inquiſitive mind; and it is in this, perhaps, that phyſicians, who have wandered after imaginary diſcoveries, have been the moſt led aſtray.

By order, here, I underſtand the manner, in which the ſtrokes of the artery follow each other. The pulſe beats with uniformity in a natural ſtate, at leaſt, in the generality of ſubjects. We are aware, that in ſome perſons, the pulſe is irregular and intermittent; different, perhaps, in one arm, from what it is in the other. Theſe exceptions, however, are rare. The more the pulſe continues in this ſtate of equality, the more perfect is health. The more it deviates from this ſtate, the greater reaſon we have to ſuppoſe, that ſomething is defective in the animal œconomy. This ſtate of uniformity in the pulſe ceaſes, the moment the circulatory powers, are, by any means, diſordered. In general, the pulſe may be conſidered as unfavourable, in proportion to its inequality, and frequency.

Without aiming at too great ſubtility, or minuteneſs, we may, I think, admit of three kinds of inequality in the pulſe. Of theſe, the firſt will be, the intermitting pulſe; the ſecond, the rebounding pulſe; and the third, the unequal pulſe, in which, each ſubſequent pulſation increaſes in ſtrength.

The firſt of theſe, is attributed to a deficiency of blood in the artery, or to the weakneſs of the heart: We meet with it after ſeveral pulſations, or after only one or two. When it occurs only now and then, after many pulſations, it is but of little conſequence; but there is danger in it, when it happens frequently. The latter is often obſerved in malignant fevers, and the plague; becauſe, in all theſe, the *vis vitæ* is exceedingly weakened.

I have frequently obſerved this kind of pulſe, in chronic diſeaſes, without its ſeeming to have any bad conſequences. (*q*) I have likewiſe obſerved it in perſons, who have been worn out, by want of ſleep, and by pain. This intermitting pulſe often occurs, in acute diſeaſes of the breaſt, without being followed by diarrhœa, as Solano aſſerts. An intermitting pulſe is not unuſual, in dying people.

The rebounding pulſe, (*r*) is ſaid to take place, when two quick ſtrokes are followed by a ſlow one. I obſerved this kind of pulſe, every day, for ſome time, in a female patient, who had a fever of long duration, after delivery, and who recovered. I have

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(*q*) An intermitting pulſe, is, by no means, a dangerous ſign. It frequently occurs in old people, and, ſometimes, in younger perſons, of the beſt health. Dr. Heberden obſerves, that he has met with two perſons, who, when perfectly well, always had pulſes very unequal, both in their ſtrength and the ſpaces between them; upon their growing ill, their pulſes conſtantly became regular; and it was a never failing ſign of their recovery, when their arteries began again to beat in their uſual irregular manner. S.

(*r*) The *pulſus dicrotus* of the ancients.

likewiſe obſerved it, as have many others, in aneuriſms. Solano aſſures us, that it announces an hemorrhage at the noſe. Another writer goes ſo far as to ſay, that it is the forerunner of death. A pulſe of this ſort, may, indeed, have preceded both: but are we, from this, to conſider it as a conſtant ſign? Sometimes, inſtead of two, we obſerve, three quick ſtrokes, in ſucceſſion, and then a ſlow one.

The unequal pulſe, (s) which gradually increaſes in ſtrength, has been noticed, by Solano, as announcing a ſweat, when the pulſe is ſoft; and the jaundice, when it is hard.

We often acquire a knowledge of diſeaſes, and, more particularly, of their criſes and termination, by obſerving the ſigns afforded by the pulſe. But the reaſoning we deduce from theſe ſigns, ſhould be drawn with the greateſt circumſpection. A ſingle accidental cauſe, will be able to occaſion great variations in the pulſe. It will appear to be alarming, perhaps, when there is no degree of danger. If, in a caſe of this ſort, a phyſician continues to derive the indications from ſuch changes, he deſires, as it were, to ſee things, which have no real exiſtence. Every body knows, that the moſt ſingular ſymptoms, and many variations of the pulſe, are excited in children, by worms. Diſeaſes may, therefore, be, in certain caſes, ſo diſguiſed, as to be ſcarcely diſtinguiſhable. The pulſe may, in an inſtant, become different from what it was the moment before; eſpecially in nervous complaints. There is hardly any ſort of pulſe, that I have not obſerved, in hyſteric patients, in the ſpace of four and twenty hours. The moſt dangerous ſorts of pulſe will be found in a patient, who feels a violent compreſſion of the breaſt, about the region of the ſtomach; and yet, the moment the inconvenience is removed, his pulſe will reſume its natural beat.

(s) Solano has given it the name of *pulſus inciduus*. S.

In advanced life, the pulſe is no leſs variable, whether it be in health or in ſickneſs. In ſome, this difference will proceed from an aneuriſm; in others, from diminiſhed irritability.

I attended the mother of four celebrated men, in ſix ſeveral attacks of a violent inflammation of the breaſt. All theſe attacks happened, between her 70th and 76th year. From five of theſe, ſhe recovered. This lady experienced, each time, a very conſiderable degree of fever; and I often had occaſion to obſerve, that, in the ſpace of an hour, her pulſe went through ſeveral variations of intermitting, rebounding, *&c.* that it ſometimes roſe conſiderably, and, the next moment, was as much ſunk. Sometimes, all theſe changes occurred in ſucceſſion. The moment the patient began to mend, and this uſually happened by means of expectoration, which was, indeed, ſomewhat difficult, the pulſe became more regular. After theſe attacks, ſhe perceived no other irregularity in her pulſe, than that it was now and then, though not often, intermitted. During the intervals, ſhe enjoyed the beſt health. The precepts of almoſt all our medical writers, would have aſſured me, that this ſtate of the pulſe, was a very dangerous one, if I had not attended to the particular conſtitution of the patient, rather than to their doctrine, in this caſe. (*t*)

I have likewiſe obſerved, in different parts of the body, and at different times, a very unequal pulſe, both in frequency and ſtrength. A widow lady, thirty-nine years of age, had long complained of rheumatiſm, and of a ſingular coldneſs, which extended down the right leg, to her foot. During ſeveral weeks, I reckoned fifty ſtrokes in a minute, in her right arm, and from eighty to ninety-two, in her left. The pulſe was very weak, in the former, and conſtantly ſtrong, in the latter. The patient complained, now and then, of conſiderable heat; but this was leſs felt on her right, than on her left ſide.

(*t*) The laſt time I paſſed through Calais, my ingenious friend Dr. Coſte, phyſician to the Military Hoſpital there, called me in to viſit one of his patients, an old lady, who, ſome months before this, had felt a ſlight attack of palſy. The pulſe of this lady, ſometimes, varied more than twenty ſtrokes in a minute. It was, occaſionally, intermittent; and, now and then, there was a quick ſucceſſion of ſtrokes.—Two months after this, I learnt, that the patient was ſtill living, and, ſeemingly, much recovered; her pulſe was become more uniform. S.

Theſe obſervations prove to us, that many particular circumſtances may occaſionally vary the pulſe; and that we, therefore, ſhall do well, not to be influenced in our prognoſtic, or method of cure, by this ſign alone.

C H A P. II.

Of Signs derived from the Reſpiration in Diſeaſes.

THE moment, in which the fœtus may be ſaid to paſs, from a ſtate of vegetation, to animal life, is that, in which he breathes for the firſt time. Reſpiration is, therefore, the ſecond general object, in the ſtudy of diſeaſes. Hippocrates was the more particularly attentive to this, as he knew but very little of the theory of the pulſe.

As a part of ſemeiology, the ſtate of the reſpiration is of the utmoſt importance, becauſe it conducts us, as it were, to a knowledge of the internal character of acute or chronical diſeaſes. In acute fevers, however, that are not accompanied with inflammation of the breaſt, we are not ſo ſcrupulouſly to conſider the reſpiration as a ſign; and ſtill leſs in the plague: becauſe the pulſe may be conſiderably increaſed in number, without a proportional increaſe in the reſpiration. It cannot, indeed, be denied, that in a healthy ſtate, we obſerve a certain number of pulſations, and a pretty regular number of inſpirations and expirations, in a given time. This is uſually in the proportion of four to one; ſo that the pulſe beats four times, while we breathe once. This having been obſerved to be the ordinary affinity, between the pulſe and the reſpiration, many phyſicians were led to conclude, that the ſame *ratio* held good, when the number of pulſations was increaſed; but Baron Haller has ſufficiently proved, that the reſpiration may be very ſlow, with a ſlow, as well as an accelerated, motion of the blood, provided the pulſe be ſmall, and that only a ſmall quantity of blood enters into the lungs at a time. If much blood is thrown into the lungs, from the heart, the reſpiration will, neceſſarily, become more frequent and laborious.

In a ſtate of health, the reſpiration is commonly ſlow, equal, and eaſy. The leſs it deviates from this ſtate, after conſiderable motion, or the ſooner it returns to it again, the more it argues of health. It becomes a leading ſign in diſeaſe, in proportion to this variation; but, in attending to it, we ſhould be careful not to view it in the abſtract. It will be always prudent, and even neceſſary, to conſider, at the ſame time, all the other ſigns of the diſeaſe, becauſe the reſpiration is not always ſo uniformly affected, as we might, perhaps, expect. We ſhall ſometimes find it free, and uninterrupted, even in the moſt dangerous circumſtances.

The reſpiration is ſaid to be great, when we inſpire and expire a conſiderable quantity of air at once. Other writers, before me, have taught this, by obſerving, that in ſpeaking of great reſpiration, they alluded, not to an increaſed circulation, but to a larger a larger quantity of air being taken into the lungs. And this is the reaſon, why phyſicians, in general, are agreed, that in ſuch a reſpiration, the motion of the thorax, diaphragm, abdominal muſcles, lungs, and likewiſe of the circulatory organs, is free; and, that the *vis vitæ* is in a good ſtate. A great reſpiration can never announce any thing bad, in a diſeaſe.

The reſpiration is ſmall, when we receive, and expel, from the lungs, only a ſmall quantity of air at a time, although the breaſt riſes conſiderably, each time. Hippocrates, long ago obſerved, that great breathing is great, externally, and ſmall, internally; becauſe, in the firſt caſe, there is only an appearance of difficulty; whereas, in the ſecond, there is more of reality than appearance. It follows, from all this, that a ſmall reſpiration, oppoſed to a great one, may be conſidered as indicating an embarraſſment within the thorax, either from extravaſated blood, or any other cauſe, that, by compreſſing the trachea, or by other means, prevents the free courſe of the air. Boerhaave, therefore, has done well to ſay, that a ſmall reſpiration is always a dangerous ſign.

The reſpiration is frequent, when the motion of the lungs is in very quick ſucceſſion, and the quantity of blood, that paſſes through them, is great. This frequency of breathing has, for its cauſe, an increaſed effort of the organs of reſpiration, but not any obſtruction within the lungs themſelves. Running, or other violent exerciſe, increaſes the reſpiration in people of the beſt health. Their lungs, however, are not obſtructed. This ſign, therefore, proves to us, in acute diſeaſes, that a greater quantity of blood paſſes through the lungs in a given time, than is the caſe in health; and this can never be advantageous.

Circumſtances, oppoſed to thoſe we have juſt mentioned, produce an oppoſite ſtate of reſpiration. In general, we may conſider it as a good ſign, when the patient is not obliged to exert any violent efforts in breathing; and when the blood paſſes into the lungs, only in a moderate quantity, and not with too much frequency. It will be a very favourable appearance, when the other ſigns are not alarming.

The reſpiration may be ſaid to be very frequent, when the intervals between the inſpiration and expiration, are as ſhort as poſſible. This is conſtantly a mark of ſome obſtacle to the free motion of the lungs. Its moſt frequent cauſe will be an extravaſation, within the cellular ſubſtance of the lungs; and of courſe, this is a ſtate of inflammation. Frequency of reſpiration, may be accompanied either with violent pain, or with a ſimple ſenſation of ſtricture.

It will be perceived, by the other ſigns, whether this frequency is to be aſcribed to an effuſion of water into the thorax; becauſe, as hydrothorax very often follows peripneumony, ſo peripneumony does not unfrequently ſucceed to hydrothorax, as Dr. Storck of Vienna, Dr. Monro of London, and others have noticed. A very frequent reſpiration is, therefore, to be conſidered as a very dangerous ſymptom in inflammation of the breaſt. In caſes of dropſy, it denotes a collection of water within the cavities of the thorax or abdomen; and this is always attended with danger. I have obſerved, that in hydrothorax, the reſpiration is but little affected at the beginning of the diſeaſe. In inflammatory diſeaſes of the breaſt, in which there is a collection of blood and phlegm, the reſpiration is very frequent, and accompanied by a rattling in the throat. This is uſually the forerunner of death.

The reſpiration is very ſlow, when there are conſiderable intervals between each inſpiration. This ſort of breathing denotes the weak ſtate of the organs, and, in fevers, commonly precedes delirium. In hyſterical affections, it is the uſual forerunner of ſyncope.

The reſpiration is ſaid to be laborious, when the inſpiration ſeems to be performed with difficulty, as if the thorax were oppreſſed by ſome conſiderable weight. This is conſtantly a ſymptom of danger in fevers; becauſe, like the painful reſpiration, it commonly indicates inflammation. The reſpiration is not conſtantly and uniformly laborious, in chronic diſeaſes; becauſe this difficulty is liable to be excited by a variety of occaſional cauſes. We obſerve this in aſthmatic patients, where this ſymptom diſappears, and returns, at intervals, during a long courſe of years. The ſame thing happens to hypochondriacal patients, from flatulent diſtenſions of the lower belly; and in hyſterical affections, we often ſee the breathing become ſo difficult, that the greateſt efforts of the organs of reſpiration, are ſcarcely able to give it a free courſe. I have particularly noticed this extreme difficulty of breathing, in hyſterical women, after acute fevers.

We ſhould be cautious, not to miſtake this difficulty of breathing, which occurs after inflammations of the breaſt, for a continuation of the inflammation. In theſe caſes, the phyſician will do well, likewiſe, to attend leſs to the pulſe than to the urine; becauſe, in a ſtate of inflammation, it is commonly high coloured; whereas, in this ſtate, it is uſually of a pale colour. Beſides this, it will be right for him to attend to the frequent ſighs, and depreſſion of ſpirits, which uſually occur in theſe caſes; and, above all, he ſhould be careful to obſerve, that when theſe ceaſe, only for a moment, the reſpiration becomes eaſy; and this would not be the caſe, in continued inflammation.

I have occaſionally ſeen a numbneſs and rigidity of the limbs take place, during a difficulty of breathing of this ſort, which had been preceded by an extreme degree of anxiety.

The reſpiration is unequal and irregular, when the patient breathes differently, in different moments. This inequality is uſually an unfavourable ſymptom; becauſe it denotes the operation of different cauſes at once; whereas, an equal and uniform reſpiration ſeems to indicate only one obſtacle, although it be a bad one. It is well known, that changes in the reſpiration, are to be conſidered as of great importance in diſeaſes; eſpecially when theſe changes are durable. They will be favourable, or alarming, in proportion, as they approach to, or recede from, the eaſy, natural, and uninterrupted reſpiration of health.

A great and frequent reſpiration, in inflammatory diſeaſes, was conſidered, by Boerhaave, as a ſymptom of approaching criſis. In delirium, the reſpiration is commonly rare and great.

The reſpiration is ſmall and frequent, when the patient, from the pain he feels in breathing, draws in only a little air at a time. In the pleuretic ſtitch, the reſpiration is ſmall and frequent, on this account. This frequency and ſmallneſs, denote the violence of the diſeaſe. In fainting, the reſpiration is ſmall, but rare.

The reſpiration is very great and frequent, when only one lobe of the lungs is inflamed; ſo that the patient is ſtill able to draw in a conſiderable quantity of air at a time. In acute fevers, the reſpiration ſometimes becomes ſmall and frequent; and this is an unfavourable ſign, becauſe it denotes how much the patient's ſtrength is exhauſted. It is likewiſe very alarming in hectic fever, becauſe it commonly occurs in their laſt ſtage.

Previous to convulſions, or delirium, the reſpiration is obſerved to be very rare, but at the ſame time, very great. Proſper Alpinus, however, remarks, that this is not the caſe in every delirium, unleſs the patient complains, at the ſame time, of an oppreſſion or pain of the breaſt, or of faintneſs. Still, however, it may be conſidered as indicating ſome affection of the brain; and therefore, lethargy and delirium, or ſome of the uſual conſequences of ſuch an affection, may be expected.

The reſpiration is very ſlow and ſmall, when nature is, as it were, exhauſted. In theſe caſes, the patient can hardly be perceived to breathe. Phyſicians of every age have agreed, that of all the unfavourable ſorts of reſpiration, this is by far the moſt alarming. In fevers, it is a ſymptom that is deciſively mortal. Hippocrates, Galen, and Alpinus, have all conſidered it as the forerunner of death. According to the latter of theſe, it denotes the vital powers to be totally exhauſted; and, according to Boerhaave, that the more noble viſcera are in a gangrenous ſtate. To this rule, however, there are many, and not unfrequent exceptions. I myſelf have ſeen this ſort of reſpiration occur in a patient, the moment he was recovering from a fainting fit, which had been ſo laſting, as to give the appearance of death. The ſtanders-by really ſuppoſed him to be dead. The patient was a ſtrong and healthy peaſant, between thirty and forty years of age. This man had been impriſoned on account of ſome crime, and the fear of being hanged had thrown him into this ſtate. All his faculties ſeemed to be annihilated. I could perceive no beating of the pulſe, nor any motion of the heart or the breaſt, or the leaſt marks of reſpiration. His eyes were cloſed, and his face and cheeks were perfectly colourleſs. His body was cold, and he had, in every reſpect, the appearance of a corpſe. The people about him, moved him in every direction, and even rolled him on the floor; but all to no purpoſe; he gave no ſign of liſe. I applied the volatile ſpirit of ſal ammoniac to his noſtrils. This alone has ſometimes reſtored drowned perſons to life; but in this patient it was of no uſe. I likewiſe attempted to pour ſomething down his throat, but the liquor flowed back again, through his mouth. The whole of this ſcene was tranſacted publicly in our town-houſe, before a crowd of witneſſes. He remained twenty-four hours in this ſtate, and then I began to perceive the ſmall and ſlow reſpiration, of which I have juſt now ſpoken. During the firſt four and twenty hours, I directed his noſtrils to be conſtantly rubbed with the ſpirit of ſal ammoniac. After this, he began to ſwallow a little. At the end of thirty hours, he opened his eyes for the firſt time; and, ſix hours after this, began to utter a few words, with a very feeble voice. In ſix days, he was perfectly recovered.

The reſpiration is very elevated and laborious, when the abdomen, ribs, ſternum, ſcapulæ, clavicles, and even the noſtrils, are in conſiderable motion, although only a ſmall quantity of air is taken into the lungs at a time. I have often compared the noiſe produced by a patient, who breathes in this manner, to a pump that is difficult of ſuction. This kind of reſpiration is, without exception, conſidered as a fatal ſymptom, becauſe it indicates the greateſt ſtricture of the thorax that is poſſible, and always an approaching ſuffocation. Proſper Alpinus obſerves, that we commonly meet with it in patients, who have an inflammation of the throat or the lungs; or who are ſuffocated, as it were, by an effuſion of pus, from an abſceſs. I have not ſeen this ſort of reſpiration conſtantly take place in pulmonic inflammation; but I once obſerved it, after the ſudden diſappearance of a ſwelling of the hands and feet. I had reaſon to ſuſpect, that the patient had taken ſome medicines, without my knowledge, and that an abſceſs had formed within the lungs.

The rattling in the throat, which occaſionally occurs in reſpiration, is owing either to inſpiſſated mucus filling the bronchiæ, or to an effuſion of ſerum into the cellular ſubſtance of the lungs. This effuſion is the conſequence of inflammation. The cauſe of the increaſe of inflammation, may be aſcribed to the continual motion of the lungs, the degree of fever, and the neglect, or the improper uſe, of remedies. In caſes of acute fever, inflammations of the breaſt, and abſceſs within the thorax, this rattling in the throat, is uſually the forerunner of death. It ſometimes takes place eight and forty hours before the patient expires. It is of ſhorter duration, when the inflammation terminates in gangrene. At the beginning of diſeaſes, and particularly of aſthma, this ſymptom is leſs frequent, and commonly leſs alarming. I have ſeen it take place, on the ſixth day of peripneumony, and yet the diſeaſe has terminated favourably, on the tenth, by means of camphor. I have even obſerved it on the ninth and eleventh day, and yet the inflammation afterwards gave way to the vapour of vinegar.

In general I have obſerved, that the reſpiration may be the ſame in very different circumſtances, and even of great diverſity in the ſame circumſtances.

All this variety will depend on the difference of conſtitution, and the occaſional cauſes; and theſe will always be attended to, by an inquiſitive and ſagacious obſerver. I have ſeen all the different kinds of reſpiration occur in very different diſeaſes.—They are, therefore, not to be ſolely depended on, in the forming a prognoſtic, but are to be compared and combined with all the other ſigns, which occur in the diſeaſe.

CHAP. III.

Of Signs derived from the Urine in Diſeaſes.

THE vulgar conſider the urine as a glaſs, in which we are to ſee every thing that paſſes within the body. They, therefore, expect, that the phyſician, without attending to any of the other ſymptoms of a diſcaſe, ſhould at once read its hiſtory in the urine; and likewiſe the conſtitution of the patient, at the ſame time. Theſe prejudices are the more deeply rooted in the minds of ignorant people, becauſe the wonderful is always the moſt agreeable to them. Paracelſus openly declared himſelf in favour of this impoſition; and there have been other phyſicians, who have been knaviſh or ignorant enough, to indulge in reveries of this ſort.

I have ſometimes ſeen theſe urine caſters inſpect a patient's water, with ſuch a myſterious air, that I could never have ſuppoſed any body capable of ſo much ſtudied impoſition in this way, had I not been an eye witneſs of it. Enlightened people, however, are no longer dupes to theſe impoſtors.

Women are, in general, the moſt credulous in quackery. I knew one, who was reputed a woman of good ſenſe; ſhe was ſaid to poſſeſs a particular talent in judging of the merit of phyſicians; in her vapouriſh fits, which ſhe defined by an infinite number of names, ſhe conſtantly ſent her urine, and the remedies preſcribed for her, to an urine caſter, who lived at a conſiderable diſtance; and this man, after inſpecting her water, ſent word back, whether the medicines were proper for her or not.

The origin of this impoſition is to be looked for, in the ignorance and barbariſm of the middle ages, when the greater part of phyſicians were eccleſiaſtics, who either ſaw the patients in their churches, or were ſatisfied with inſpecting their urine.

Daniel Le Clerc is of opinion, that the readineſs of the vulgar to be deceived, is the great ſource of theſe impoſitions. That celebrated writer very ſenſibly obſerves, that they who feel themſelves capable of gaining the eſteem of reaſonable patients, by their probity and talents, and, of courſe, refuſe to prognoſticate any thing in diſeaſes, from the ſole inſpection of the urine, are very often abandoned in favour of ſome ignorant impoſtor, who ſees, in the urinal, the hiſtory of a diſeaſe, of which he would have no idea, even at the bed-ſide. We often ſee perſons, who, on other occaſions, are deficient, neither in genius nor talents, are yet, in theſe matters, as credulous as the ignorant vulgar. It would ſeem as if theſe people renounce, at once, all their knowledge and good ſenſe, and put themſelves on a level with the multitude.

Not long ago, a man of merit, after wavering for ſome time in his opinion concerning an impoſtor of this claſs, declared, at length, in his favour, and, from that inſtant, praiſed him in all companies. A waggiſh ſtudent happened to ſay to him, ſoon after this, that his new favourite was one of the clevereſt fellows in the world, having predicted, from the urine of a cat, that there would be no more mice for a twelvemonth. Sorely piqued at this raillery, he returned home, and, preparing a mixture of urine, and tincture of ſaffron and chalk, ſent it by his ſervant to the urine doctor, with a note to inform him, that it belonged to a perſon, who had been long ſick, and who wiſhed for his advice. The quack, who ſtill has the reputation of being a very ſkilful phyſician, receives his fee, and ſends back his opinion in writing, deſcribing the nature of the diſeaſe, and the method of cure. The good man now ſaw and acknowledged the impoſition; and, ſurely, his good ſenſe ought to have led him to this before.

Le Clerc is not the only writer, who has attempted to deſtroy the influence of theſe impoſtors. Stahl has expreſsly written a treatiſe on the ſubject. Boerhaave obſerves, that a phyſician muſt ſurely be inſane, who attempts to judge of diſeaſes, by the urine alone. He himſelf has detected ſome of the tricks of the moſt reputed urine doctors; but theſe fellows were ſtrangers to ſhame. Hoffmann was of the ſame way of thinking. "Senſible phyſicians", ſays he, in one part of his works, "have "long ſmiled at theſe old womaniſh tales". Tiſſot obſerves, that phyſicians attend to the urine of patients, becauſe the variations in this way, may throw ſome light on the changes that happen to the other fluids; but that it proves the groſſeſt ignorance, or moſt conſummate knavery, to attempt to perſuade the world, that, from an inſpection of the urine, any man can diſcover the ſymptoms or the cauſes of a diſeaſe. We may affirm with certainty, adds this writer, that whoſoever preſcribes a remedy, after ſuch an inſpection alone, is an impoſtor; and that the patient, who takes it, is a mad-man. But let us paſs on to other matters.

Some of the Greek phyſicians, who were fond of a ſubtility of reaſoning, have given us a great variety of diſtinctions in the urine, each of which, according to them, has its ſimplification. But we have long been convinced, that nature, in this reſpect, does not act in ſo determinate and uniform a manner. I will attempt, however, in a few words, to point out the different properties and appearances of the urine, which ſeem to merit the attention of the phyſician.

The urine is a portion of the watery fluid, which the chyle carries with it into the blood, and from which it is ſeparated by the kidneys. This watery fluid brings with it, a certain portion of oil, together with ſaline and earthy particles. The oil and ſalts of the urine are, in greater quantity and more exalted, in fevers; and likewiſe after violent exerciſe. The earthy part of the urine, frequently attaches itſelf to the urinary paſſages, and occaſions calculous concretions. Neither the oil nor the ſalts, are ſenſibly perceptible in the fœtus; both, however, are to be diſtinguiſhed in the urine of children. As we advance in life, the urine becomes more impregnated with theſe principles.

Immediately after a meal, the urine is commonly clear. Five or ſix hours after this, it is of a much higher colour. In general, the urine will be found to vary according to the age, temperament, aliment, *&c.* In deſcribing the urine, phyſicians generally attend to the quantity in which it is ſecreted; and likewiſe to its odour, taſte, colour, fluidity, and contents.

In cold countries, the urine is ſecreted in conſiderable quantity; becauſe the inſenſible perſpiration is leſs. It is likewiſe very copious in diabetes, in hypochondriacal and hyſterical patients, and, in general, whenever the inſenſible perſpiration is diminiſhed, or a diarrhœa ſuddenly ſuppreſſed. In hot countries, and in caſes of dropſy, the urine is in little quantity. In acute fevers, and in diſeaſes of the urinary paſſages, there is likewiſe but little urine ſecreted.

The taſte and the ſmell of the urine, will always be dependent on the oil and the ſalts it contains. Theſe, therefore, will prove to us, in ſome meaſure, the ſtate of the fluids, or the length of time it has remained in the bladder. The urine is of a ſtrong ſmell in acute fevers, on account of the heat with which they are attended, and of the ſmallneſs of the ſecretion. In eruptive fevers, in which the humours are commonly much depraved, the urine is ſometimes fœtid. It has been found ſo exceedingly fœtid after a total ſuppreſſion, as to occaſion inſtant death to the ſurgeon, who drew it off with a catheter. Boerhaave conſidered fœtid urine in the beginning of diſeaſes, as a very unfavourable ſign, and tells us, it is very difficult to ſucceed in the cure of theſe caſes, whether they be acute or chronic.

The ſame principles may be applied to the taſte of the urine, if the cauſe only is attended to. When the urine has a ſtrong odour, it will likewiſe have a ſtrong taſte. When it is high coloured, and at the ſame time inſipid, Boerhaave ſuppoſes great danger, and that even death is not far off.

The colour of the urine may be white, pale, yellow, red, brown, green, and even black. Janus Plancus tells us, he once ſaw it of a blue colour: he deſcribes it, as having depoſited a blue ſediment, and yielding an odour, not unlike that of ſal ammoniac. On opening the bladder, there was no appearance of this blue colour to be diſcovered; ſo that many people in Germany have ſuſpected, that Plancus's patient made uſe of a copper chamber-pot.

A white or a pale yellow coloured urine, in acute fevers, is conſidered as an unfavourable appearance, and more eſpecially, if it had afforded a ſediment previous to this. According to Galen, a white urine announces delirium, in fevers; and when it happens to a delirious patient, may be conſidered as announcing death. Boerhaave informs us, that the urine of patients, who die of acute fevers, is always colourleſs. I have had occaſion, however, to obſerve, that in diſeaſes attended with inflammation, when the urine became pale, there was commonly a change for the better, provided the other ſigns were good. This white or pale yellow urine, is by no means uncommon, even in perſons of the beſt health. It is almoſt an invariable forerunner of hypochondriacal or hyſterical affection. It likewiſe commonly accompanies theſe complaints; and as the patient begins to recover, the urine becomes more coloured. Sometimes, however, I have ſeen theſe complaints occur with a very high coloured urine, and ſuch inſtances are by no means uncommon. The urine is likewiſe of a pale colour, in obſtructions of the kidneys or liver. It was on this account, that Galen conſidered it as a very unfavourable ſign in bilious complaints. In long continued diabetes, the urine is likewiſe colourleſs; but in this diſeaſe, it is commonly ſweeter and more copious, than in hypochondriacal or hyſterical ſubjects, and is accompanied with an inceſſant thirſt, and with a weak quick pulſe.

A ſaffron coloured urine is obſerved in bilious complaints, and particularly in jaundice. But it is not peculiar to theſe diſeaſes; we ſee it in acute fevers of every kind, and the deepneſs of the tinge is commonly proportioned to the degree of fever. A reddiſh coloured urine is particularly obſerved in inflammatory fevers; and I have, in many caſes, obſerved, that this redneſs has been greateſt in thoſe, who had been accuſtomed to drink the moſt wine, when in health. I have often remarked, that the urine of hard drinkers is of a deep red colour, even when they are in good health. In general, this deep coloured urine, is conſidered as a mark of great fever in acute diſeaſes ; becauſe, in theſe caſes, only a ſmall quantity of urine is ſecreted, and this is a ſufficient cauſe for its being of a high colour. Boerhaave tells us, that high coloured urine, in an acute fever, is a ſign that it will be very dangerous, and of long duration ; and that it forebodes a very diſtant and dangerous criſis ; gangrene of the bloodveſſels, eſpecially thoſe of the brain ; and death. To this he adds, that urine, of a deep blood colour, without cloud or ſediment, is a ſtill more indubitable ſign, that the patient will die.

The urine ſometimes appears of a brown colour, when it is really of a ſaffron tinge, and very turbid. With reſpect to a green coloured urine, we might be apt to think, that the ancients had ſeen it only in their imagination, from the theory they had formed of the bile, if Boerhaave, and ſince him, De Haen, had not noticed it. Boerhaave obſerves, that it indicates and announces all the ſymptoms, which are uſually attendant on a diſſolution of the atrabilis. The ancients have likewiſe deſcribed to us a black urine, which, they tell us, is of the ſame nature as the green coloured urine, and indicates the ſame phenomena, although it generally is more alarming. Galen relates the having ſeen this ſort of urine in quartans, and in hypochondriacal complaints. The black coloured urine, which Proſper Alpini attributes to coagulated blood, occurs ſometimes in women after miſcarriages, or in caſes of hemorrhoidal flux from the bladder. I have ſeen the urine of a lying-in woman, from being of a ſaffron colour, become in a very ſhort time, of a black colour : this patient had a fever, from a ſuppreſſion of the lochia.

The ancients, in general, conſidered black coloured urine as a very dangerous ſign, except in caſes of melancholy.

The fluidity of the urine is likewiſe exceedingly variable. Sometimes, we find it extremely limpid; at other times, it is thick. When firſt voided, it will, perhaps, be limpid, and, after having been ſometime at reſt, will become thick, and *vice verſa*. Some writers have pretended to obſerve different degrees of fluidity, according to the difference of colour; but theſe are arbitrary diſtinctions, which are every day contradicted by Experience.

A urine, which continues to be limpid after it is voided, indicates, in acute fevers, that we are not, as yet, to expect a criſis. It is on this account, that Hippocrates did not conſider it as a good ſign in fevers, although it was high coloured, or yellow. Boerhaave obſerves to us, that a limpid and colourleſs urine, in inflammatory fevers, indicates a morbid ſtate of the viſcera, delirium, convulſions, gangrene, and death.

When limpid urine becomes turbid ſoon after it is voided, we may argue, that nature is labouring to effect a criſis.

When a patient, at the beginning of acute diſeaſes, had voided turbid urine, and it continued to remain ſo, the ancients ſuppoſed every thing to be in great perturbation within the ſyſtem. When this happened in a more advanced ſtage of the diſeaſe, they concluded, that the criſis would be very difficult. They therefore noted it as a bad ſign, becauſe, at any rate, ſuppoſing the patient's ſtrength be good, they conſidered it as preſaging a diſeaſe of long duration ; and death, if the patient's ſtrength was unequal to the conflict.

Baglivi ſpeaks of a patient, who laboured under ſome diſeaſe of the joints, and who voided a great quantity of turbid urine, which very ſoon became of a gelatinous conſiſtence. The patient, ſoon after this, recovered. I have ſeen ſomething of the ſame kind take place, in a ſimilar diſeaſe.

The ancients conſidered it as a ſign of criſis, when the urine, from being thick when firſt voided, ſoon became limpid. In acute fevers, Boerhaave ſays, it is a good ſign, both of the preſent and future ſtate of the diſeaſe, when the urine depoſits, and this quickly, during the whole courſe of the fever, a white, inodorous, light, and uniform ſediment. M. De Haen does not undertake to determine the time, at which this true critical ſediment ought to be depoſited, after the urine is voided. But he is of opinion, that the more ſpeedily the depoſition begins to take place, and the longer it laſts, the more perfect is the criſis. He remarks, however, that a ſediment, precipitated ten or twelve hours after the diſcharge of the urine, has been the forerunner of a favourable criſis.

It may be laid down, perhaps, as a general obſervation, that the different degrees of fluidity in the urine, depends on the various combination of its conſtituent parts. The proportion of theſe, may be aſcertained by an eaſy experiment. Boerhaave tells us, that if the urine, after being agitated, long retains its ſcum, it proves the ſalts and the oil to be intimately combined together, and that the criſis will be difficult; but that the criſis will be much eaſier, if this ſcum is readily diſſipated.

The conſtituent parts of the urine, either fall to the bottom of the veſſel, or remain ſuſpended in the water, or float at the top of it. Both the ſediment and the ſcum, are of great variety in quantity and compoſition, and form, and colour. The Greeks have given to each of the different kinds of ſediment, a particular denomination. However clear theſe denominations might be to them, they are to us extremely ambiguous. We may obſerve, however, that a purulent ſediment is a mark of abſceſs, either in the urinary paſſages, or in the parts of generation. If the ſediment is mucous, or gives the appearance of phlegm, it proves that ſome of the mucus of the bladder, is brought away with the urine; and this more eſpecially, if the urine is pale and thin, and the ſediment viſcid and fœtid. This likewiſe denotes the preſence of calculus. The phyſician, however, ſhould be attentive not to confound this mucous ſediment, which ſo often occurs in ſtone patients, with any thing purulent, and ſo conclude, that an abſceſs exiſts either in the bladder or kidneys, even though the ſediment be white, or of a greeniſh tinge. Friend relates the hiſtory of a fever, which terminated by an abſceſs of the bladder. The ſymptoms that accompanied it, were ſuch as uſually denote the preſence of a ſtone. The patient died, and, on enquiry after death, there was found to be a collection of matter between the bladder and rectum.

The ſediment was conſidered very attentively by the ancients. and they drew from it many concluſions in diſeaſes. If it was thick and glutinous, they ſuppoſed a ſimilar gluten to be prevalent in the fluids of the ſyſtem, and *vice verſa*.

With reſpect to the colour of the ſediment, it may be white, pale, of a yellowiſh red, red, green, lead coloured, or black; of theſe, the white is conſidered as the beſt, when the parts, which compoſe it, keep well together, and appear ſomewhat pyramidical. This ſtate of the ſediment, has been conſidered as announcing every thing to be in readineſs for a criſis. Even within our time, a criſis has been expected to be performed with difficulty, when the ſediment, inſtead of being ſomewhat pyramidical, was perfectly level.

The pale coloured ſediment is not ſuppoſed to differ materially from the white. The ancients conſidered the yellow and the green as unfavourable, in conſequence of the imaginary notions they had of the bile. A little boy, whom I attended, and who was troubled with worms, voided a dark coloured urine, which depoſited a copious ſediment, of a deep yellow colour. The patient recovered, notwithſtanding this. When the ſediment was of a red, or yellowiſh red colour, the ancients concluded, that the morbific matter was not ſufficiently prepared for a criſis. I have obſerved this ſort of ſediment in very different circumſtances of acute fevers;

having ſeen it, both in patients who were nearly recovered, and in patients who were dying. The ancients likewiſe conſidered the lead coloured ſediment as dangerous.

Cloudy urine, in the opinion of the ancients, afforded but little hopes of a criſis: they gave the preference, however, to this, rather than clear urine, in the ſame manner as they preferred urine with ſediment, to cloudy urine. Clear urine, was, by no means, pleaſing to them: they inferred from it the approach of delirium, eſpecially when the other ſigns were found to corroborate this opinion, and in this they acted prudently. A black, thick, irregular cloud, is a very bad ſign, according to Hippocrates. Galen, however, does not think it ſo alarming as a black ſediment.

The matter we ſee floating on the ſurface of the urine, is ſometimes oily. We are not ſpeaking here, of urine which has the colour and conſiſtence of oil; but of urine, which affords a floating web-like appearance, of an oily nature, on its ſurface. When the ancients ſaw much of this oil on the urine, they conſidered it as a ſign of conſumption; and this opinion has its adherents, even in theſe times. A fat, robuſt lady, who was my patient ſome time ago, reproached me for not attending, ſufficiently, to this appearance in her urine. Let us even ſuppoſe, that this phenomenon derives its ſource from the fat, as the ancients imagined, ſtill, however, this does not conſtitute conſumption, becauſe in almoſt every diſeaſe the patient waſtes.

We ſometimes, in violent fevers, and above all in hectic patients, obſerve a pellicle on the urine, not unlike a ſpider's web. I was very ſeriouſly deſired one day to attend to this appearance, Sometime before this, I had pronounced the patient to be conſumptive. The pellicle, in this caſe, was extremely thin, ſlightly, and indeed almoſt imperceptibly, coloured. I have many times ſeen a ſimilar appearance in the urine of healthy people, and have likewiſe remarked, that in the urine of many other conſumptive patients, there were no traces of it to be perceived. Bonetus, ſo long ago as the laſt century, very properly remarked, that this pellicle was of no ſignification, becauſe we meet with it in water, in which tartar has been boiled, and inſtead of melting on the approach of heat, as fat would do, it coagulates, and forms a ſaline cruſt. Baron Haller once ſaw drops of true oil, floating on the urine of a man, who had ſome defect in his kidneys.

I have now finiſhed all that the plan of my work will permit me to ſay on the ſubject of the urine. It will be found to vary in the moſt healthy perſons; according to the diverſity of age, ſex, temperament, climate and ſeaſon, manner of living, and medicines that are employed. It will be, ſometimes, found to have the ſame appearance in an acute fever, and in the ſcurvey; diſeaſes, by the bye, that are very different from each other. It will, likewiſe, be found to be very different in different ſtages, even of the ſame diſeaſe. Sir John Pringle has very well obſerved, that the urine is a very uncertain ſign in petechial fevers, becauſe we ſee patients die, whoſe urine depoſited a ſediment, whilſt others, without having any ſuch ſediment, recover.

Hippocrates, and others after him, have remarked, that a phyſician will be liable to err, who forms his prognoſtic ſolely from the urine, either in acute or chronic diſeaſes; it being well known, that the urine varies in perſons of the beſt health, and is liable to be affected by ſo many external cauſes, that it is impoſſible to derive from it any juſt opinion of the ſtate of the perſon, who has voided it. Beſides, we ſometimes ſee the other ſigns afford the beſt hopes, whilſt the urine has a moſt unſavorable appearance; and, in other caſes, the beſt ſort of urine is accompanied with the moſt fatal ſymptoms in other reſpects.

It, therefore, clearly follows from all this, that it will always be right and requiſite, to unite the obſervation of all the other ſigns to that of the urine, when we wiſh to judge ſoundly of a diſeaſe, without being in danger of erring, and injuring, at once, the health of our patient, and our own reputation; and that we ſhall do well not to attend much to the urine, on which there is ſo little dependence, when we are able to diſtinguiſh, and judge of diſeaſes, by the other ſigns.

The general ſigns of diſeaſes, and of their criſis and termination, have, therefore, all of them ſomething truly indeterminate in their ſignification; of theſe, the reſpiration is, perhaps, the moſt uniform and certain, but this ſign is not at our diſpoſal as ſuch in every diſeaſe. There is leſs certainty in the pulſe, tho' we can avail ourſelves of it in almoſt every diſeaſe. The urine may be ſaid to be the leaſt certain of the three, and can be uſeful to us, only in a very few diſeaſes.

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C H A P. IV.

Of the Signs to be derived from the different Appearances and Poſitions of the Body; and likewiſe, from the State of the Mind.

BY an attentive obſervation to the ſigns of diſeaſes, we learn to diſtinguiſh thoſe which are peculiar to each. Theſe ſigns are, indeed, very numerous, but they admit of a preciſe determination, only in a ſmall number of diſeaſes, however numerous may be the effects of theſe diſeaſes.

My plan will not allow me to treat of each of theſe ſigns, in their utmoſt extent; much leſs ſhall I be able to ſpeak of them all. I will endeavour to bring my reader with me to the bed ſide of the ſick, but not to every diſeaſe. To think myſelf obliged to ſhew him every particular caſe, would be to judge too unfavorably of his capacity.

The genius for obſervation aims at embracing, at once, all the phenomena, or rather, what may be called *the phyſiognomy* of a diſeaſe. This phyſiognomy is to be collected from the whole external appearances of the body. The features of the patient come in for no ſmall ſhare on this occaſion. The countenance alone, in many patients, will ſufficiently indicate the diſeaſe. In acute fevers, chloroſis, jaundice, worm complaints, and furor uterinus, there is required but a very moderate talent for obſervation, to diſcover the diſeaſe in the countenance of the patient. The more it differs from the healthy countenance, the more danger does it announce in diſeaſes. A man, who, with an inflamed countenance, looks at me with a wild and fierce air, inſtead of the peaceful and gentle mein he had juſt before, announces to me, that he is threatened with delirium. In one patient, however, who had an inflammation of the breaſt, I remember to have obſerved an extreme wildneſs, accompanied with a paleneſs of the countenance, the night before a criſis, altho' he was, at the ſame time, cold and almoſt inſenſible. The next day, he returned again to himſelf, and both his pulſe and reſpiration clearly indicated a change for the better; theſe favourable appearances continued from the ninth to the twelfth day, when he drank imprudently of wine, and died.

A weak, timid countenance, with a hanging down, and paleneſs, of the lips, are conſidered as very unfavourable ſigns in acute diſeaſes, becauſe they indicate a great loſs of ſtrength. A very melancholy countenance, is a very bad ſign, likewiſe, in theſe caſes, unleſs the patient has a diarrhoea, or is wholly without ſleep, or is in want of food. When the countenance ſuddenly changes for the worſe, in acute diſeaſes, we have every thing to fear. In inflammatory diſeaſes, when the noſe becomes ſharp and pointed, the countenance of a ſaturnine complexion, and the lips of a blueiſh colour, we may conclude, that even gangrene has taken place. An attentive obſerver will ſee a manifeſt danger from the countenance of the patient, when nothing alarming appears, perhaps, from the other phenomena of the diſeaſe.

There are many things to conſider in the eyes. Boerhaave was ſo attentive to this matter, that he examined the eyes of his patients through a lens, in order to ſee whether the blood circulated properly, through the capillary veſſels. Hippocrates conſidered it as an unfavourable ſign, when the patients avoided the light; when their tears flowed involuntary, or when their eyes were drawn aſide by ſpaſm, or when one eye appeared ſmaller than the other, or the white of the eye became red, or when the ſmaller arteries there, were of a blackiſh hue, or ſunk in, or projected, too much. When the eye-lids, in ſleeping, were not ſufficiently cloſed to cover the white of the eye, Hippocrates conſidered it as a ſign of death, unleſs the patient had a diarrhoea, or was accuſtomed to ſleep in this manner when in health. A Dutch phyſician is of opinion, that we ſeldom ſee a patient ſleep in this way, in an acute fever, without its terminating in death. To this, however, there are exceptions. I ſaw Baron Haller ill, with an acute fever, ſome years ago, and ſleep in this manner. Happily for mankind, the Baron recovered.

Since that time, I have remarked the ſame phenomenon, in hyſterical women, who have been attacked with acute fevers. It frequently happens in children without being followed by any bad conſequences. Dr. Klockhof's rule is, therefore, not without exceptions *(u.)*

Cheyne inſiſts, that the eyes ſhould be carefully attended too in chronic diſeaſes. When they appear thick and languid, and, above all, when the lachrymal gland is larger and harder than uſual, he aſſerts, that we may venture, without heſitation, to aſſert, that the nerves of ſuch a patient are in a relaxed ſtate; and that, if the patient be a woman, ſhe is ſubject to hyſterical affection, that her natural functions are in ſome manner diſordered, and that her mode of living is improper. I myſelf remember to have ſeen a very amiable lady, with a yellowiſh, ſemi-tranſparent ſwelling in the great angle of the eye, ſimilar to the deſcription given by Cheyne. This lady, tho' naturally of a lively diſpoſition, was exceedingly ſubject to hyſterical affection, and of weak health.

The phyſician will do well, likewiſe to examine the tongue. Baglivi conſidered this as an object of the greateſt importance, in the obſervation of diſeaſes. The other ſigns, ſays he, in one part of his works, often deceive us, this never does. It is on this account that he recommends it to us, never

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(u) The author here mentioned was a writer of conſiderable merit. His *Opuſcula Medica* were publiſhed at Utrecht, in 1747, in 8vo.

to quit a patient till we have examined his tongue very carefully, eſpecially in caſes of internal inflammations; becauſe, in theſe complaints, the tongue ſoon becomes parched, and this in proportion to the increaſe of inflammation. But it is ridiculous to conſider only the tongue, or to aim wholly at cleanſing this without removing the fever; becauſe the tongue becomes cleaner or fouler, in proportion to the degree of fever.

A change of taſte frequently announces the ſtate of the ſtomach. Thus, a bitter taſte is a proof of bile in the ſtomach. In general, when the patient complains of a diſagreeable taſte, which cannot be traced to ſome external cauſes, we may conclude there is ſome defect in the digeſtion. I obſerve that the digeſtion is not thoroughly re-eſtabliſhed, when valetudinarians in a recovery from fever, do not thoroughly reliſh what they eat and drink.

Sometimes a very diſagreeable and intolerable taſte is the effect of a latent abſceſs of the thorax. Platreer, with great ſagacity, by this ſign, and by a ſlight pain in a particular part of the breaſt, diſcovered an abſceſs of this ſort, although there were no other marks of it. He made an opening in the ſpot where this pain had been felt, though in ſo ſlight a degree as to be hardly complained of by the patient, and there flowed from it a quantity of very fœtid pus: from that moment the diſagreeable taſte ceaſed.

The expectoration is conſidered as a ſign of what is paſſing within the thorax. At the beginning of

inflammations

inflammations of the breaſt, the matter ſpit up is ſometimes ſtreaked with blood. This and every other ſort of expectoration is ſalutary, provided they relieve the pain; without ſuch an effect they are unfavourable; and the more ſo, if they appear in an advanced ſtage of the diſeaſe. I have ſeldom ſeen pure blood expectorated in inflammations of the breaſt, without obſerving that the matter ſpit up, and which is at firſt thick, is a certain ſign that the patient will do well, unleſs he commits ſome irregularity. Such an expectoration will probably be the means of ſaving the patient, although it comes on late in the diſeaſe, provided we endeavour to promote it by the vapour of vinegar; by means of this remedy I have ſaved many patients. We ſometimes, however, meet with patients, who, in an advanced ſtage of the diſeaſe, are either deficient in ſtrength or inclination to ſpit. I have ſeen patients who obſtinately refuſed to expectorate, though they were able to do it.

In the beginning, if the matter ſpit up, is thin and frothy, it proves the diſeaſe to be conſiderable. In a more advanced ſtage it is a ſign of danger, and, at the height of the diſeaſe, indicates death. A total defect of expectoration is a very favorable ſign, when we perceive by the decreaſe of all the ſymptoms, that an inflammation of the breaſt is likely to be diſperſed on the third or fourth day. I have often effected this, by means of camphor.

The expectoration varies, both in its nature and ſignification, in chronic affections of the breaſt. In that ſort of phthiſis which follows a ſudden ſuppreſſion of the menſes, I have ſeen at firſt a coagulated blood ſpit up; and ſoon after this, the expectoration was of phlegm mixed with a mere florid blood. The ſpitting, in theſe caſes, gradually became purulent and fœtid, and was conſtantly ſtreaked with more or leſs blood. When the patient began to recover, the fœtor gradually went off; but there almoſt conſtantly recurred a ſpitting of blood, at the return of each menſtrual period, when the flux itſelf did not take place.

When an abſceſs forms in the breaſt, after pulmonary inflammation, the patient does not ſpit much at firſt, notwithſtanding the frequency of his cough. He begins, however, to ſpit, long before he expectorates pus, and the matter he coughs up is frequently white, and inodorous, even till the approach of death. When the abſceſs burſts, and this is frequently the caſe, the matter ſpit up becomes ſo thick and tenacious that the patient can hardly cough it up. I have ſometimes in ſuch caſes obſerved that patients bring up a kind of pellicle with the pus. The rupture of an abſceſs of this ſort is ſometimes accompanied with vomiting,

The pus is good when it is white, uniform, without fœtor, and brought up without difficulty. It may be conſidered as bad, when it is of a green or yellow colour, and affords a diſagreeable ſmell.

But there is another ſort of expectoration, which ſeems to denote a particular ſort of phthiſis. The matter of this is a thick, viſcid, inſipid and inodorous phlegm, and ſpit up in conſiderable quantity. I ſaw an inſtance of this ſort in a lady at Franckfort, ſort, about ten years ago, who became conſumptive, after having long ſpit up a phlegm of this kind. I did not perceive that ſhe had any fever. Huxham obſerves, that this ſort of phthiſis is as fatal as that which follows a vomica, and which manifeſts itſelf by a purulent expectoration.

Baglivi ſays, there is certainly an abſceſs of the lungs, when the patient coughs up little grains, which have a diſagreeable ſmell, when preſſed between the fingers. He does right, however, to add, that other ſigns are neceſſary. I have often ſeen people cough up grains of this ſort, which, on being preſſed betwen the fingers, yielded a very diſagreeable ſmell, and yet, theſe perſons were free from any complaints; we likewiſe ſee many perſons, who, in apparent good health, ſpit up a dark blue coloured or black matter, which is attended with no ſymptom of illneſs. The follicles of the œſophagus ſometimes yield a mucus, which is as dark coloured as ink. I once ſaw a patient who died of a mortification of the inteſtines, and who ſpit up a thick, viſcid and dark coloured matter (x).

Diminution or loſs of appetite, conſidered as a ſign, is leſs ſignificative in diſeaſes, than it has hitherto been ſuppoſed to be. The appetite for eating diminiſhes in all acute diſeaſes. Men naturally ſuppoſe themſelves ſick, when their appetite fails them, and very often eat, without appetite, and by force as it were, with the hopes of getting well. It is of real importance to ſee a ſick man recover his appetite. This proves the inteſtines to be in a ſound ſtate, and there is never any true ſign of recovery, after acute diſeaſes, till this return of appetite does take place *(y)*.

(x) The reader will be pleaſed to obſerve, that the word matter, here, and in other parts of the work, is not intended to mean *pus*, but as a term of general application, phlegm, mucus, &c.

The appetite is ſoon loſt in chronical diſeaſes, becauſe the ſtomach uſually ſuffers in theſe; we ſometimes ſee women, who are ſo extremely feeble, as to live, almoſt without food. In theſe patients, when the appetite mends, we may expect a change for the better.

Vomiting is common to many diſeaſes, and, in ſeveral, it is a good ſign. Vomiting is conſtantly preceded by nauſea. This nauſea leads us to ſuſpect ſome foreign matter in the ſtomach, unleſs we have reaſon to preſume ſome other cauſe of irritation. Vomiting is, therefore, uſeful, whenever the ſtomach is loaded with bile or phlegm. Docteur Pye ſaw a very dangerous and extraordinary vomiting, become

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(y) I have heard a very celebrated anatomiſt, of this country, relate, with his uſual pleaſantry, in one of his lectures, that after a ſmart attack of fever, which had confined him during many days to his chamber, he felt this return of appetite, and a longing for ſomething ſavory. He immediately ſent out his ſervant to a cook's ſhop, who ſoon returned to him with a plate of ham, and another of cold beef. I very greedily devoured both, ſaid the profeſſor, and from that moment I dated my recovery.

truly critical in the gout; the patient was about forty-two years of age, a ſober man, accuſtomed to no diſeaſe but this. In March 1753, he was attacked by a very ſevere fit in both feet. The pain in his feet, heels and ancles, increaſed for about ten or twelve days, till at length he felt the moſt extreme agonies. In the height of this extremity, the pains (it is the patient's own expreſſion) from the feet, heels and ancles, flew as quick as lightening to the calves of his legs; but remaining there not half a minute, and not in the leaſt abating their violence, (though the feet, heels and ancles, were free from pain) from the calves, after a ſhort ſtay of about half a minute, the pains aſcended, with the ſame velocity as before, to both the thighs, at the ſame time leaving the calves of the legs free. From the thighs, in leſs than one minute, they arrived at the abdomen, and, after giving the patient one moſt ſevere twitch in the bowels, reached the ſtomach: Here the pains and the fit ended, on the patient's vomiting up about a pint and a half of a green watery liquor, but ſo extremely corroſive, that he compared it to the ſtrongeſt mineral acid. Immediately after this diſcharge, he fell aſleep, and, after ſleeping about five hours, waked perfectly eaſy, and, in two days, walked about his buſineſs. In another fit, in February 1754, a ſimilar criſis happened again. In both, a profuſe ſweat attended the patient every morning, of a very offenſive odour; his linen was tinged as if with ſaffron, and his urine of almoſt as deep a red as claret. But the moment, the critical vomitings had taken place, the diſeaſe, and, of courſe, all its ſymptoms diſappeared. At length nature relieved the patient, in another way. A large quantity of chalk ſtones were extracted from the bottom of his left foot, and this, from time to time, for about three or four months. Sometime after this, he was attacked with fever, and, at length, with a fit of the gout, which continued, with violence, for about a week, with frequent retching and vomiting, but without bringing up more than the contents of the ſtomach. At this time, an uncommon itching at the bottom of the foot, from which the chalk ſtones had been extracted, tormented the patient for five or ſix hours; and from this part, there was ſoon afterwards diſcharged more than half a pint of a bloody ſerous matter, full of chalk ſtones, which proved as truly critical, as the vomitings had done in the former attacks. The patient, after this, continued in perfect health.

Vomiting is, occaſionally a very alarming ſign, both in itſelf, and from the nature of the matter brought up by it. It is exceedingly dangerous, for inſtance, when it proceeds from the irritations, excited by inflammation of the brain, or of any of the thoracic or abdominal viſcera; or from ſpaſm. I have ſometimes ſeen vomiting a very dangerous ſign, in pleuriſy and peripneumony; and even mortal, when it appeared on the firſt day, and continued or increaſed after two or three bleedings. It frequently yields, however, to the firſt bleeding.

In petechial and eruptive fevers, vomiting is a dangerous ſign; becauſe, in theſe, it is often occaſioned by the ſudden diſappearance of the eruption. In the opinion of Hippocrates, the matter vomited up is of an alarming nature, whenever it is either brown or black, or fœtid. In caſes of true ileus, even the fœces are ſuppoſed to be vomited up. Baglivi attributes the vomiting of a dark brown matter to weakneſs, and ſays, it is a ſign of death.

I had the care of a lady, ſometime ago, of more than ſixty years of age, who vomited up a conſiderable quantity of a blackiſh and very fœtid matter, every five or ſix days. She was compleatly conſtipated. This complaint was of ſix weeks ſtanding, when I firſt ſaw her. The vomiting was accompanied with excruciating pain of the ſtomach and abdomen. It continued, at firſt, five or ſix hours, and latterly even twelve hours ſucceſſively. The remedies, I propoſed, ſeemed to be ſalutary, as the patient grew better, reſumed her uſual gaiety and ſtrength, and for ſome time continued in good health. I had reaſon to conclude, that an extreme artery of the inteſtines had been the proximate cauſe of this cruel diſeaſe. Sometime after this, the patient had a violent fit of the gout, and, on the ſeventh day from the attack, a return of the ſame vomiting as before. Another phyſician had the care of her, in this laſt illneſs, of which ſhe died, and I never heard what were his ſentiments of the caſe, or what method of cure he adopted.

Diarrhœa and coſtiveneſs will each of them have different ſignifications, according to the diverſity of circumſtances, both in a healthy ſtate and in diſeaſes. Unfrequent and dry ſtools are always a better ſign of health, than frequent and fluid ſtools. This was the reaſon, why Boerhaave remarked, that healthy people who complain of going too ſeldom to ſtool, and of voiding hard and dry fœces, complain without reaſon, becauſe this proves the ſtrength of their conſtitution; whereas, a man, who is conſtantly, as it were, on the cloſe ſtool, muſt neceſſarily be of a weak and relaxed habit.

I knew two brothers in Lower Saxony, both of whom were men of worth; one of theſe had conſtantly hard ſtools, which gave him great uneaſineſs; and the other was equally miſerable, becauſe he had frequent watery ſtools. The friendſhip and affection of theſe two brothers, ſeemed to ſuffer, now and then, merely from this difference in their ſtools.

Coſtiveneſs is an unfavorable ſign, in diſeaſes which require an open belly, as in caſes of colic, inflammations of the bowels and cholera morbus. I have obſerved, that ſeveral caſes of inſanity have been of long duration, when attended, in the beginning, with obſtinate coſtiveneſs. A diarrhœa is very dangerous in inflammations of the breaſt, which are to be expected to terminate by expectoration. Trillez has obſerved, that a diarrhœa, in the beginning of pleuriſy, is uſually mortal; whereas it proves ſalutary, in a more advanced ſtage of the diſeaſe. This experienced writer does well to ſay this, becauſe, in the beginning, a diarrhœa would be liable to check the expectoration; whereas in the more advanced ſtage of the diſeaſe, we may ſuppoſe the expectoration to be pretty well over. Baglivi would have done well to have made the ſame diſtinction, He aſſerts, in one part of his works, that all who have a diarrhœa in pleuriſy, die. I have indeed always found it a dangerous ſymptom;

eſpecially

eſpecially when it occured on the ſeventh or eighth day of a pleuriſy; although many of theſe patients did well. Copious diarrhœa is a very dangerous ſymptom, in a phthiſis that owes its ſource to an abſceſs of the lungs.

The nature and the colour of the fœces, will likewiſe be found to afford many uſeful ſigns. I have already obſerved, that dry fœces are favorable, becauſe theſe prove, that much of the juices have paſſed into circulation. Hippocrates, on the contrary, was of opinion, that fœces of a ſoftiſh conſiſtence, and lengthened out, were a favorable ſign in diſeaſes, eſpecially if they were voided at about the ſame time, as in health, and were proportioned to the quantity of aliment taken in. He thought it deſireable, however, that the fœces ſhould be of a harder conſiſtence towards the approach of a criſis; that they ſhould aſſume a deep yellow colour, and not have too much fœtor. He conſidered watery, white, pale, green, very red, frothy, and viſcid ſtools, as unfavourable; and ſo he did, ſtools that were in very ſmall quantity. But he looked on it as a very dangerous ſign, when they were of a leaden or black colour, and, at the ſame time, greaſy, and very fœtid. He ſeems to have carried his exactitude, on this head, ſtill farther, and this was probably the reaſon, why ſome of the wits of his time gave him the appellation of σχατοφαγος, as Ariſtophanes had before named Eſculapius.

It will be right to determine the diſeaſes, in which, the ſtate of the excrements may be conſidered more eſpecially as a ſign. In the dyſentery, viſcid and ſlimy ſtools prove, that ſome acid matter abrades the inteſtines, and detaches the mucus with which they are naturally moiſtened. Sometimes, this matter is ſo exceedingly corroſive, as to bring away even layers of the villous coat of the inteſtines. I have obſerved ſimilar ſtools in hyſterical women, who were reduced very low by diarrhœa. A man of ſixty-three years of age, during twenty of which he had been ſubject to the hemorrhoids, felt, one day, a very painful flatulency, accompanied by a conſiderable oppreſſion of the breaſt, cough, and a ſpitting of blood. The hemorrhoidal flux returned, and all theſe ſymptoms went off, on his voiding a great quantity of viſcid, acid, and ſlimy matter, by ſtool.

I have often obſerved ſhining, jelly-like ſtools in children, who had obſtructions of the meſenteric glands, and, of courſe, were conſumptive. Excrements of this ſort, uſually denote a weakneſs of the nervous ſyſtem, and an acrimony, reſulting from bad digeſtion.

Black fœces in inflammations of the inteſtines are the ſigns of approaching death, if the patient complains no longer of pain. I have alſo obſerved excrements of this colour, to have been the uſual ſign of death in children, who have died of convulſions from worms.

On the ſubject of ſweats, Hippocrates informs us, that theſe, which appear on the critical days, and relieve the fever, are the beſt. That they are good, when they are univerſal and give eaſe, and bad, when they do not produce this effect; but that the worſt of all are the cold ſweats, which are confined chiefly to the face; becauſe, in an acute fever, they are the forerunner of death, and in diſeaſes of leſs violence, announce conſiderable duration. In ſimilar circumſtances, when they are even univerſal, they afford the ſame prognoſtic. The ſweat, which appears only about the neck, and in the form of millet ſeed, is bad; but that which appears in drops, and evaporates, is favorable.

In an inflammation of the inteſtines, which proved fatal on the fourth day, I obſerved, cold ſweats on the firſt, ſecond, and third day, ſometimes about the head, and ſometimes on the hands. Theſe ſweats were as cold as ice. The diſeaſe began with them, and I conſidered it from the beginning, as of a fatal tendency. The reader will recollect, that the admiral Waſſenaer, was covered with a cold ſweat the moment his œſophagus burſt.

It has been remarked, in general, that the ſkin may be very dry till the very moment in which the criſis takes place, without the latter being the leſs favorable on that account: That a critical ſweat, when in too great abundance, is dangerous; becauſe, by depriving the patient of the ſtrength neceſſary to carry him through the criſis, it prolongs the diſeaſe inſtead of removing it: and, that an exceedingly copious ſweat, towards the cloſe of acute diſeaſes, is a ſign of death; becauſe, it denotes a great degree of weakneſs, and becoming cold, is in the generality of caſes the laſt ſweat.

Copious ſweats are an unfavorable ſign in hectic fever, becauſe they denote conſiderable weakneſs In many caſes, however, patients get the better of theſe ſweats. Whilſt I am writing, I have the care of a child, eight years old, whoſe firſt complaints may be traced to an eruption in his neck. This eruption diſappeared during the courſe of a catarrhal fever, ſome months ago: ſince that time he has had an almoſt inceſſant and violent cough, attended with fever, and colliquative ſweat. The profuſion of theſe ſweats waſted him exceedingly, and yet, at length, he began to recover his ſtrength, and to be able to take exerciſe. This fever, and likewiſe his cough, which conſtantly grew worſe. in moiſt weather, are now both of them conſiderably moderated.

The degree of ſweat is not always an effect of a frequency of pulſe. We often ſee patients covered with ſweat, with the pulſe only at 80; whilſt in others, the ſkin will continue dry, although the pulſe beats 130 ſtrokes in a minute. Sometimes the moſt powerful ſudorifics have been unable to raiſe a ſweat; and the ſource of this defect has been looked for, in too great a rapidity of the circulation. Sanctorius has very judiciouſly traced the origin, progreſs, and event of diſeaſes, by aſcertaining the variation, in the weight of the body, from an increaſe or decreaſe of the inſenſible perſpiration.

We often ſee hemorrhages take place in acute diſeaſes; and they have no little claim to the attention of the phyſician. The blood, in theſe caſes, commonly flows either from the noſe, the mouth, or the uterus ſometimes. it has been ſeen to iſſue from the ſurface of the body. An hemorrhage happening during the firſt days of an acute fever, is regarded as a ſymptom of the diſeaſe, and denotes its violence. It may likewiſe be conſidered as critical, and of great importance, in ſuch a caſe. In inflammatory fevers, hemorrhage, conſidered as a ſymptom, can never do harm, unleſs it be too abundant.

I once attended Baron Haller, in an attack of Eryſipelas, during which, the ſurgeon took from him eight and forty ounces of blood. In the ſpace of four and twenty hours, he loſt five pounds more, by an hemorrhage at the noſe, and yet he recovered the loſs.n I have ſince had occaſion to ſee nearly the ſame thing happen in other patients.

An hemorrhage from the uterus, in acute diſeaſes, is, in general, a good ſign, whether it be ſymptomatical or critical. The phyſician, however, is not to place his dependence on this, and neglect other remedies. I have never ſeen a favorable criſis by an hemorrhage from the lungs. Theſe hemorrhages have uſually been rather ſymptomatical than critical. In caſes of ſmall pox, Sydenham conſidered, ſpitting of blood, and bloody urine, as fatal ſigns. Boerhaave has likewiſe placed bloody urine, in acute diſeaſes, amongſt the ſigns of death. A bloody urine, void of gravel, is ſometimes a mark of hemorrhoidal flux from the bladder, unleſs the blood comes from the kidneys. A bloody urine, with gravel, uſually denotes the preſence of the ſtone in the bladder. In caſes of dyſentery, when we obſerve blood mixed with the excrements, we ſhould be careful to oppoſe the inflammation by every means. When the blood in this caſe flows pure, and without mixture we have reaſon to fear the worſt conſequences Loſſes of blood, either at the noſe or by ſtool, are very ſalutary in apoplexy. In malignant fevers, almoſt every kind of hemorrhage is unfavourable, becauſe they all owe their ſource to the great diſſolution of the blood.

Towards the cloſe of the yellow fever, which is ſo frequent and fatal in America, the blood is ſometimes ſo diſſolved and attenuated, as to flow from the noſe and mouth, and even from the pores of the body. It will eaſily be conceived how alarming this muſt be to the phyſician.

Phyſicians have derived many ſigns from the ſtate of the blood, drawn off by phlebotomy. When it has afforded a thick coagulum, of a yellowiſh white colour, or *buff*, they have argued the preſence of inflammation, and having obſerved that in favourable caſes this buffy coat has diminiſhed, or wholly diſappeared on the third or fourth bleeding, they have conſidered it as a very unfavorable ſign, when it continued or increaſed. It ought always, however, to be combined with the other ſigns of the diſeaſe.

Many objections have been made to this theory. Sydenham obſerves, that if the blood of a pleuritic patient flows not horizontally, but perpendicularly, there will be no appearance of buff, altho' the blood may be drawn off with the ſame quickneſs. He adds that he does not know the reaſon of this. Triller has ſeen an exception to Sydenham's obſervations, and ſo has Van Swieten. Both parties have probably related what they ſaw. As to myſelf, I have obſerved this buffy coat in inflammatory diſeaſes only, when the opening was large, and when, of courſe, the blood flowed horizontally. Sometimes, however, the orifice may be large, altho' the blood may flow perpendicularly, when a little fat impedes the paſſage, or when the vein is opened laterally. When the orifice is ſmall, the blood will be diſcharged in drops, and there will then be no buff. Mathematical phyſicians have explained this in their own way, by ſuppoſing, that the thicker part of the blood can flow out, only in proportion as the orifice is large, the thinner particles being ſuppoſed to be thrown out towards the ſides of the veſſels, while the thicker blood circulates in the center.

Werlhoff relates, that in a caſe of violent pleuriſy, in which the right ſide was affected, he directed a vein to be opened in the left arm. The blood had a very healthy appearance, and was without buff, the orifice cloſing when about three ounces had been drawn off. He then directed a vein in the right arm to be opened, and the blood, taken from this, was very inflammatory. It would ſeem that this laſt opening was larger than the other, and that this occaſioned the difference.

But there are other, and more conſiderable objections to be offered on this head. Dr. De Haen obſerved a great variety and uncertainty in the ſtate of the blood, in theſe caſes; and the rules, which have been founded on the appearance of buff, ſeemed to him to be no leſs uncertain. I feel all the weight of his difficulties, becauſe I have had occaſion to make ſimilar obſervations myſelf. Perhaps theſe variations are only exceptions to general rules; perhaps too none of theſe rules ſhould be admitted, only as they agree with, and are corroborated by the other ſigns of a diſeaſe.

I have often ſeen a truly inflamed blood taken from very healthy ſubjects. Theſe people had undoubtedly a prediſpoſition to inflammation, as I had reaſon to conclude from other circumſtances: but when there is no appearance of ſever, no hardneſs in the pulſe, nor any local pain, we cannot ſuppoſe any inflammation to be actually preſent. All theſe difficulties therefore teach us the neceſſity there is for collecting together all the other phenomena, and comparing them with this. (z)

It is of importance to obſerve the poſition and actions of a patient, Hippocrates conſidered it as a fatal ſign, when the ſick carried their hands to their forehead; or ſcratched with them, as it were, about the ſheets or the wall. I have ſeen theſe ſigns, and particularly in patients who died delirious: I have likewiſe obſerved them in others who recovered.

(z) Dr. Z. was not aware of Mr. Hewſon's experiments on the blood, when he wrote this work. That ingenious phyſiologiſt has very clearly aſcertained the true nature of the buff; and a prudent phyſician, who knows the many accidental circumſtances, which will vary this appearance in the blood, will be very cautious in drawing from it any indications of cure.

I had

I had the care of a child, three years old, who had an almoſt inceſſant vomiting during ten days, with a pulſe which intermitted at every third, fourth or fifth ſtroke; he ſlept almoſt conſtantly, had convulſive motions of his eyes, and grinding of the teeth; and, on the eleventh day, took medicines for the firſt time. His fingers were perpetually beating againſt each other, ſo that blood flowed from under the nails. All theſe motions are the ſigns of conſiderable fever, of approaching delirium, and conſequently of danger. In this caſe, all theſe ſymptoms were the effects of worms.

The poſition of the patients, when in bed, is very often a ſtriking indication of the internal ſtate of the ſick; and, therefore, claims the attention of the phyſician. The more irregular this poſture is in inflammatory diſeaſes, the greater may we ſuppoſe to be the internal anxiety, and, of courſe, the danger of the patient. Hippocrates has given us a very ample and accurate account of the different poſitions of the ſick. The beſt of all is, that to which the patient is accuſtomed when in health. If he lies on his back, with his neck, and arms, and legs ſtretched out, the ſign will be unfavorable; but it will be ſtill worſe if he lies on his belly, or draws his head down towards his feet. When I ſee a patient hang his legs out of bed, throw his arms from one ſide of the bed to the other, and uncovers his neck, I ſuppoſe him to feel conſiderable anxiety, and conſider theſe as alarming appearances. It is a fatal ſign when the patient ſleeps with his mouth open, (unleſs he has been accuſtomed to do ſo in health) and to bend and croſs his legs, whilſt he lies on his back.

I have, many times, ſeen all theſe ſigns, ſometimes ſeparately, in different patients, and ſometimes altogether, in the ſame ſubject; and I have ſeldom been deceived in juding from them, of the anxiety and danger of the patient.

To ſee the patient draw his head down towards his feet, is a mark of great uneaſineſs in acute diſeaſes; but I have found it a dangerous ſign, neither in gouty and other painful diſeaſes; nor in children, nor in ſilent, and hypochondriacal patients.

It is a very unfavorable ſign to ſee the legs hanging out of bed. I have commonly ſeen this occur, towards the cloſe of fatal inflammations of the breaſt, or at leaſt in the delirium, which precedes death; a deſire of getting out of bed, and ſitting up, is likewiſe a ſign of danger. I have obſerved this to happen in an eccleſiaſtic, who was attacked with a violent inflammation of the lungs, accompanied with great anxiety, but without any expectoration. The patient was even covered with cold ſweats; he recovered, however, and I attributed his recovery to the uſe of camphor in ſtrong doſes. In other patients, I have ſeen this deſire of getting up, the forerunner of death. I remember a middled aged man, who had paſſed almoſt his whole life, in a chair, either in reading, or drinking, or ſmoking. Towards the cloſe of an inflammation of his breaſt he got out of bed, in oppoſition to my advice, walked about the chamber, and, a few hours after this, died.

The different poſitions of a patient in a chronic diſeaſe, ſometimes lead us to aſcertain its genus and ſpecies. The poſture particularly claims our attention in the beginning of hydrothorax, a diſorder ſo very difficult to be known at firſt, that it has deceived, as Morgagni well obſerves, the moſt experienced phyſicians. The patient, on the firſt attack of this complaint, feels a little conſtraint in his breaſt, which he finds difficult to define, and which he neglects, becauſe it does not much incommode him. As the diſeaſe advances, this conſtraint becomes a real anxiety, and the patient is unable to ſleep in an horizontal poſture, and ſtill more ſo, with his head low. This ſame thing happens in a dropſy of the pericardium. This anxiety ſometimes awakens him when in bed, and even when he ſleeps in a ſitting poſture. This ſign, however, though ſo much taken notice of in this, is common to other diſeaſes, and patients have died even of hydrothorax, without having once exhibited the ſign we are ſpeaking of.

When the water in theſe caſes, is in both cavities of the breaſt, the patient lies with equal inconvenience on either ſide. When there is water only on one ſide, they are able to lie on that ſide. I have likewiſe obſerved, that, in general, theſe patients, when out of bed, carry the ſpine of the back ſomewhat forwards.

They, who have an abſceſs in the lungs, are uſually able to lie only on the ſide, in which the abſceſs is; becauſe, its preſſure on the mediaſtinum, and ſound ſide, renders the reſpiration very difficult.

ficult. When a patient has an abſceſs in each lobe, he can lie on neither ſide; ſo that here we have a ſymptom, ſimilar to what happens in hydrothorax; and hence it clearly appears, how neceſſary it will be to ſtudy the other ſymptoms and cauſes, if we wiſh to diſtinguiſh abſceſs, from dropſy, of the breaſt. The inquiry, however, will frequently be very difficult, becauſe, an inflammation of the lungs may, as I have already obſerved, be followed by dropſy of the breaſt, and this dropſy, affording all the ſigns of abſceſs, may not be truly aſcertained, till diſſection proves it after death.

In acute diſeaſes, thoſe motions, which are preternatural, will afford much ſignification; ſuch as the *ſubſultus tendinum*. Theſe do, indeed, accompany diſturbed ſleep in healthy perſons, and are almoſt indiſcriminately met with, in little and violent degrees of ſickneſs. They accompany different petechial fevers, the malignant ſmall pox, retrocedent gout, and agitation of the mind; and afford nothing concluſive. Grinding of the teeth is likewiſe a convulſive motion. I often remark it in children, and I obſerve, that it accompanies their fevers, and more particularly their convulſive fevers.

A tremor of the lips is likewiſe of conſequence, to be attended to in fevers, unleſs it be habitual. Boerhaave remarks of this, that in acute fevers it commonly precedes violent convulſions; and, in a very acute fever, a ſalutary vomiting on the third day, if any ſigns of criſis have been obſerved.

True convulſions in fevers, are more frequently obſerved in children, than in adults. I obſerve, in theſe caſes, that they are frequently the ſigns of worms. It is well known, that they often precede the eruption of diſtinct ſmall pox. In women, they denote in fevers, only hyſterical affection, though they are always the marks of weakneſs. Duretus conſiders them as dangerous in theſe caſes, but in general, they are rather alarming than dangerous. I have ſeen the moſt violent convulſions in a caſe of inflammatory ſore throat in a man, who was of a fat and groſs habit. Theſe had been indicated by no ſymptoms previous to their attack. It was the appearance of a ſurgeon, who came in to bleed the patient, which firſt brought them on. He was bled, however, and the convulſions returned during the operation; but, in three days, the patient was cured. In a caſe of lethargy, which was the effect of general dropſy, I have ſeen eight attacks of epilepſy take place, in the ſame day, and yet the patient recovered. The caſe is fully related in the ſecond volume of the Zurick tranſactions.

The writings of Hippocrates prove to us, that melancholy degenerates into epilepſy, and *vice verſa*. According to Galen, convulſions ſucceeding delirium are fatal, and ſo ſays Duretus. I have, however, ſeen this happen, and yet the patient did well. I have even obſerved, that patients have paſſed from convulſions to delirium, and *vice verſa*, and after this recover. In an hoſpital, entruſted to my care, I had the treatment of a woman, during four years, who uſed to be attacked, at the ſame time, with furor uterinus, and epilepſy *(a)*.

The ſtate of the patient's ſtrength will afford ſome important lights in the practice of the phyſician. When I ſay, as I oſten do, to female patients, *you are weak*, I am told, perhaps, that they manage, however, to ſuckle their children. By natural ſtrength, we ought rather to underſtand the order and action of the functions of the ſyſtem, than of any movements dependent on the will. So that by the ſtrength of a patient, we wiſh to imply the ſtate and aptitude of the ſolids, to execute not only voluntary motion, but alſo the natural, and vital functions.

We may be enabled to foreſee diſeaſes, with ſome probability, by a ſtudious attention to the natural ſtrength of the patient. Hippocrates has told us, we have to fear from athletic health, becauſe, as the body, from its conſtitution, is ſubject to inceſſant alteration, he who enjoys the higheſt degree of health, cannot change for the better. Perſons of a weak, and delicate fibre, have the moſt to fear from putrid fevers, whilſt thoſe of a ſtrong fibre, are the moſt expoſed to danger in inflammatory fevers. We ſhall be the better able to aſcertain the diſeaſes, with which theſe different ſubjects are attacked, in proportion, as we are previouſly informed of this difference in their natural ſtrength.

(a) Dr. Mead obſerves, that the raving fits of mad people, which keep lunar periods, are generally accompanied with epileptic ſymptoms. This, he tells us, was atteſted to him, by the late learned Dr. Tyſon, formerly phyſician to Bethlem hoſpital, who, upon that account, uſually called ſuch patients epileptic mad.

This attention to the ſtrength of the patient, will likewiſe enable us to judge of the changes and criſes of many diſeaſes. If we obſerve, in inflammations of the breaſt, in which every thing ſeems preparing for expectoration, that the patients want ſtrength enough to compleat the criſis, we naturally conclude, he will die; becauſe, the amendment is only in appearances. If a man of a ſtrong fibre is attacked with violent colic, and the pain increaſes, we have reaſon to fear it will terminate in gangrene. In general, we can judge how a diſeaſe will terminate, only by comparing the ſtrength of the patient, with the ſtrength of the diſeaſe.

It often happens, that the patient's ſtrength ſeems depreſſed and loſt, though, in reality, it is not. I have ſeen patients, who, merely from the effect of a foul ſtomach, ſuddenly became as languid, as they who are attacked with malignant fever. In theſe caſes, I have preſcribed a vomit, and the patient has as ſuddenly reſumed his ſtrength.

On theſe occaſions, the ſtrength of the patient is to be eſtimated from the preceding cauſes, and not from what the patient feels within himſelf. Dr. Tiſſot obſerves, that it is the conſtant effect of putrid matter in the inteſtines, to produce extraordinary weakneſs.

The people, in general, judge of the failure of ſtrength, merely by the preſence of diſeaſe. This is the reaſon, why, in acute diſeaſes, they require ſtrength to be given to the patient. To this miſtaken and fatal notion, may be attributed every year, the death of an inconceivable number of people. They perceive that every one is weak, when he is ſick; but they do not know, that during the increaſe of the diſeaſe, this is the ſole cauſe of weakneſs, and that by the removal of this cauſe only, we can reſtore the patient to his ſtrength.

The total failure of ſtrength is often, though not always, a very dangerous ſign. It is well known, that the different kinds of true ſcurvy are accompanied with great languor, and depreſſion of the ſpirits. This weakneſs gradually increaſes to ſuch a degree, that the patient faints on the leaſt occaſion, on the leaſt motion, and ſometimes even whilſt he ſits. Theſe ſyncopes are now and then fatal, unleſs the patients lie down immediately. This phenomenon is frequently obſerved in England, in ſcorbutic ſeamen, who have made long voyages.

There are caſes, however, in which ſyncope is in no way dangerous. I have often ſeen conſiderable faintneſs, and even convulſions occur, after ſimply opening a vein. Theſe uſually ceaſe, the moment the patient is placed in an horizontal poſture. I have ſeen hyſterical women reduced to ſuch weakneſs, as to be unable to move three ſteps in their chamber, without being giddy, and ſeized with faintneſs, and even convulſed. I have ſeen others fall into ſyncope, in the midſt of converſation, and yet be perfectly well ſoon afterwards, as indeed they were, the moment before this happened.

The difference of temperament, will likewiſe deſerve to be conſidered amongſt the ſigns. This will often be found to have conſiderable influence, in diſeaſes, and will therefore be of the greateſt importance. By the word temperament, I mean, in general, that conſtitution of the body, according to which a man feels and judges of his complaint; becauſe the feeling of a ſick man, or rather, the ideas he has of his diſeaſe, are the ſenſible effects of temperament. It is from the way, therefore, in which a patient expreſſes his ſentiments of his diſeaſe, that the temperament becomes a ſign in it. The different complaints of different patients, in ſimilar diſeaſes, are, in general, the effects of a diverſity of temperament. We ſee ſome, who are not in the leaſt plaintive; others, who complain much, whilſt ſome are violent, and even furious, in their expreſſions of pain or uneaſineſs. The phyſician ſhould be aware, that all this variety may proceed from one and the ſame morbific cauſe, which will produce more or leſs ſenſible effects according to the difference of temperament. If, therefore, the ſame diſeaſes appear to be different in different patients, we are to attribute this to the different ſenſation and idea they have of their complaints. In painful diſeaſes, it is impoſſible to aſcertain the degree of pain, without having a previous knowledge of the patient's temperament, from which we may be enabled to judge, whether he complains too much or too little.

I have met with perſons of very nice ſentiments (which might, indeed, be conſidered as a ſource of trouble to them, throughout life) who, in the moſt violent attacks of the gout, did nothing more than bite the ſheets, to conceal the violence of their pain. As a contraſt to theſe, I have met with women, who compared the moderate pain, excited by a bliſter, to the fire of burning coals. The former of theſe might be conſidered as a ſpecies of philoſophers; and the latter, as furies.

An hypochondriacal man, whoſe nerves are weakened and relaxed, will conſider, perhaps the earth as a frightful deſert. The moment he feels a tranſitory relief, the country around him, ſeems to be covered with flowers; he thinks that the ſun ſhines out, and that the birds make the woods reſound with their melody. A man can be ſaid, to be truly in health, only when his reaſon preſides over his imagination, and leads him to ſee things in their true light. In order, therefore, to acquire knowledge of diſeaſes, it will be neceſſary to have a previous knowledge of the patient's temperament.

The ſtate of the ſoul, conſidered as independent of the body, is likewiſe a very important ſign in diſeaſes, and a phyſician cannot attend to it too carefully. If it is a truth, that the temporal happineſs of man, depends on the healthy ſtate of their nerves; it is not leſs true, on the other hand, that the ſoul may be very peaceful and undiſturbed, independent of the nerves, and that this ſtate of the ſoul is of great conſequence in diſeaſes. The flattering hopes, I, now and then, derive from a moment of chearfulneſs in my patients, are not always vain. Every thing contributes to ſupport the patient, even to the grave, when the mind has ſufficient fortitude, not to give way to the ſufferings of the body. This firmneſs is not impoſſible, although the paſſions frequently owe their ſource to the appetite of our ſenſes; and although the body has, in many caſes, an abſolute power over the ſoul, yet, this power does not hold good in all. We are, indeed, ignorant of the means, by which the ſoul and the body act upon, and influence each other; becauſe we know nothing of the laws of their union. We know, however, that on many occaſions, the ſoul frees herſelf from this influence, and thus contributes, at leaſt indirectly, to the happineſs of the body. Experience proves to us, that the ſoul can remain placid and undiſturbed, in the midſt of the greateſt ſufferings. The philoſophy of the ſtoics, was founded on this principle, which ought, certainly, alſo to be in nature. Taſſe was ſo compleatly maſter of his body, that he ſeemed to loſe all ſenſibility in his enthuſiaſm. Cardan, in the midſt of the moſt painful attacks of the gout, ſometimes raiſed himſelf ſo much above all bodily affections, as to be no longer ſenſible of pain, until his mind became more vacant, and then he ſurmounted his tortures again by freſh meditations (*b*).

Scarron

(*b*) Cardan himſelf, tells us in his writings, that when he felt no pain naturally, he would excite it, by biting his lips, and ſqueezing his fingers till he cried. He did this, he adds, to prevent

Scarron was inferior to Cardan, in ſtrength of imagination, nor did he require it; becauſe, the natural gaiety of his temper was ſo great, that he appeared to be inſenſible to the moſt violent torments of the gout; and his ſoul ſeemed to perform her functions independent of the body, and to remain, as it were, immoveable on the ruins of the machine ſhe animated.

Every experienced phyſician knows, that diſeaſes of the mind, will yield to no phyſical remedies, unleſs the ſoul concurs, at the ſame time, in relieving the patient. Patience, fortitude, and dignity of ſoul, do, indeed, too often, bow down under the violence of phyſical cauſes; but, I have often ſeen theſe virtues of the mind triumphant, in a weak machine, that has been worn out by phyſical ills. The more the ſoul of a patient ſeconds the endeavours of a phyſician, the greater will be his hopes of ſucceſs. An intelligent and prudent phyſician, has often begun, and compleated, cures, which ſeemed to be impoſſible. What I ſay here, is founded on every day's experience. If, therefore, there are diſeaſes, in which the patience, the aſſiduity, and the indulgent attention of a phyſician, can ſo far influence the mind of a patient, as to contribute to his cure, may we not very juſtly conclude, that the diſpoſitions of the ſoul, may be the occaſional cauſes of changes

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prevent a greater evil: for when he happened to be free from pain, he felt ſuch violent ſallies of the imagination, and impreſſions on his brain, as were more inſupportable than any bodily pain.

in the body. How theſe changes are affected will be always wrapt up in obſcurity. We well know the effects of the different paſſions. The body is always more or leſs influenced by them. Dean Swiſt was of a meagre habit, whilſt in his ſenſes, and governed by ambition; but, the moment he became inſane, he acquired more fat. What concluſions, however, can be drawn from this, and a thouſand other phenomena of the ſame kind? That our paſſions affect us, and change us,—we can ſay nothing more with certainty. It is ſufficient, however, to prove to us, that the paſſions and diſpoſitions of the mind, having ſo great an influence on our health, it behoves the phyſician to aim at keeping both the mind and the paſſions of his patient in order; but not to ſeek for the cauſes, which may have diſarranged them, becauſe this would be to aim at impoſſibility.

We ſometimes meet with perſons of ſo lively a turn of mind, that they ſeem to conſume themſelves like a lamp; whilſt others, who have leſs of this vivacity, employ themſelves with great activity on a thouſand trifles, and are borne away by impatience, anger, inconſtancy, ſingularity, or by ſome other paſſions of little violence. Theſe are, perhaps, tormented by imaginary difficulties, which agitate and fatigue them, and, at length, bring them to the grave.

A phyſician, who ſees ſubjects of this caſt torment themſelves inceſſantly on groundleſs motives, which ſerve only to keep up their ill humour, and weaken their nerves, may be aſſured, they are expoſed to one or other of the diſeaſes we have mentioned, and perhaps to many more.

Continual uneaſineſs diminiſhes the energy of the nerves, and weakens the activity of the muſcles, digeſtion, the circulation, the ſecretions and nutrition. Theſe fretful, and uneaſy ſubjects, are ſo eaſily affected, that the leaſt complaint, the moſt trifling pain, or indiſpoſition, is ſufficient to overturn the whole animal œconomy, and to bring them, perhaps, into extreme danger: but, without being ſo, they will ſend for a phyſician at midnight, with as much haſte, and eagerneſs, as if it was noon, and as if they had thirty diſeaſes at once.

There are ſome perſons, who are eccentric, merely from the defect of education. Accuſtomed, from their infancy, to do every thing their own way, they cannot ſuffer any oppoſition to their inclinations, in more advanced life; ſo that they would, perhaps, be in a ſtate of ſpaſm for a year together, if any one, during all that time, ſhould take upon him to vex and contradict them. Theſe ſullen and fantaſtic people, are the patients, who are ſo ready to reproach phyſicians, with a thouſand imaginary faults, and to exclaim, like ideots, againſt the beſt obſervations, and the moſt ſucceſsful remedies and methods. Patients of this turn, ſeem, with a tone of authority, to command a phyſician to cure them, and are incapable of ſuffering, the moſt trifling contradiction. When they have been relieved, they often relapſe again through their obſtinacy, and ill temper. Theſe people fall ſick ſooner, and continue to be ſo a longer time, and with more violence commonly than others. The endleſs conflict of their paſſions, every moment alarmed by the vanity that diſturbs them, on the leaſt increaſe of their pain, is a continued ſource of vexation to them; the cares and inquietude of their friends ſerve only to add to this; and to aim at conſoling them or repeating their ills, would in their opinion, be deſignedly to add to their grief. In a ſituation like this, every thing is troubled and diſturbed within them. The body is affected by the troubles of the mind, and the mind ſuffers from the indiſpoſition of the body. The patient's ſituation, in theſe caſes, is the more dangerous, becauſe, in this confuſion, it is difficult to diſtinguiſh the cauſes from the effects. The whole man is ſick, and no one part is affected independent of the reſt; the diſeaſe, however, will be likely to have ſerious conſequences. If any accidental affection takes place, we may judge, from the preceding ſtate of the patient, what will be the effect of this ſubſequent diſorder.

Men would do well to accuſtom themſelves to the patient ſupport of pain. It is well known, what wonderful effects are produced by cuſtom, both in the moral and phyſical man. It is the weakneſs of our will which conſtitutes our weakneſs. We are always ſtrong enough to do, what we have a ſtrong inclination to do. The term *virtue*, comes from a word ſignifying ſtrength, *vis*, *vires*, *virtus*. Fortitude of mind is, therefore, the baſis of each virtue, and virtue belongs to a being that is weak in his nature, and ſtrong only in will and reſolution. This is the reaſon why a ſick man, who has lived in adverſity, ſupports a diſeaſe infinitely better than one, who has lived all his days in eaſe and affluence. In proſperity we are ſo ſurrounded on every ſide, as to ſee and know ourſelves only the moment we feel diſtreſs, or when we reach the verge of the grave, and the ſplendor of riches, is eclipſed by the ſolemn apparatus of death. It ſeldom happens, in theſe moments, that a man has time enough to perceive he was like other men before this. We often ſee people die from grief or deſpair, although their diſorders, perhaps, would not have proved fatal, had they learnt to look forward on death, with a calm and philoſophic eye. It is difficult to perſuade theſe people, that the grave levels all diſtinctions. The more a man becomes vexed with his diſeaſe, the greater aſcendency will it be conſtantly found to gain. Fortitude of mind is, therefore, in every caſe of ſickneſs, to be conſidered as a favorable ſign. I fear leſs from the preſence of death, than from fear and deſpair in theſe moments. Every man muſt die, but we ought ſurely to deſcend calmly into the grave. Loſs of courage, and agitation of mind, will ſerve only to extinguiſh the lamp, perhaps, before its time; whereas, he, who meets death with intrepidity may, this once at leaſt, triumph over him. We frequently ſee the eruption of petechiæ preceded by an extreme depreſſion of ſpirits, which returns again the moment the eruption diſappears, and very often continues even with the eruption, if the patient is kept too hot, or takes the heating medicines, which, it is to be lamented, are too often preſcribed in theſe caſes. I have ſometimes obſerved, that theſe patients die ſuddenly, towards the cloſe of petechial fevers, when any imaginary fear

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gets poſſeſſion of their mind. Dr. Stockar, a young Swiſs phyſician, remarks, that when theſe patients wiſh for death, they generally recover, becauſe, this proves them to have no fear of death.

I feel myſelf naturally inclined to ſay to myſelf, "*this patient will die*," when I ſee a man, with an inflammatory fever, who is of an impatient, moroſe, and uneaſy diſpoſition; becauſe, the event of theſe fevers depend much on the tranquility of the ſick, and their readineſs to aſſiſt nature. The greater part of acute and chronic diſeaſes, are lengthened out by the impatience of the ſick, and are often rendered fatal by the tranſports of their mind. Theſe people reproach nature with ills, which they have drawn on themſelves, merely by offending her.

Reſignation is uſually a favorable ſtate in diſeaſes. It is a mark of the tranquility of the ſoul, although it often announces the preſence of death. But an experienced obſerver, will diſtinguiſh the tranquility of mind, which is accompanied with certain remains of ſtrength. Nature, in ſuch a caſe, has only the diſeaſe to cope with, and thus may be able to effect, ſome favorable change from reſources, which, in the generality of caſes, will be unknown to us, but of which the patient would probably be deprived, by agitation and anxiety of mind.

Death has, in my opinion, leſs terror in it, than the life of a man, who is inceſſantly figuring to himſelf the horrors of death. I have heard many people, in good health, talk of death, and I have ſeen many ſick people die; in general, the people, who talked ſo much of death, died, as it were, through fear at the thoughts of it. There are many perſons who fear death, becauſe they have formed to themſelves very falſe ideas of the juſtice of the Deity, whom they ſuppoſe to be cruel, and inexorable. But theſe ideas can ariſe only in narrow and mercenary minds, and not in the true worſhippers of a Deity, who is mild and merciful. The leſs fear a reaſonable man entertains of death, the more placid is he in his laſt moments.

There are ſome occaſions, however, in which this tranquility of mind, is a very unſavorable ſign. It has been remarked, that, in children, the powers of the ſoul increaſe, in proportion, as thoſe of the body diminiſh, and that they are never more amiable than in their laſt illneſs.

It has been remarked, likewiſe, that the imagination is in a particular manner elevated on the approach of death. It has even happened, that patients have foretold the hour of their death, and, notwithſtanding the hopes of the phyſician, have really died at that hour (*c*).

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(*c*) It may, and does, ſometimes, happen, that perſons, on the approach of death, have conceived a ſtrong notion they ſhall die at a certain hour; and, amongſt a great number of ſuch caſes, there may have been ſome few, in which, death has chanced to take place, nearly about the time fixed on. We may ſuppoſe too, that in theſe caſes, the principle of life being feeble and nearly extinguiſhed, this idea and expectation of death, at a certain

We obſerve in children, who are ſick and in a dangerous ſituation, a very unuſual compliance in every thing, together with a degree of knowledge, which is the fruit only of reflection and experience, and a genius and eloquence far above their years. All this is the forerunner of death. This elevation of the faculties of the mind, is likewiſe much greater in middle aged perſons, than in thoſe of more advanced life. It would ſeem as if nature carried theſe ſubjects, through all the periods of life, as it were, in a moment. I knew a perſon whoſe laſt diſeaſe was inſanity. Some few hours before her death, her reaſon returned to her, ſhe ſpoke in the moſt pathetic and ſenſible terms, and ſoon afterwards died.

Notwithſtanding all theſe obſervations, however, the tranquility of the ſoul is, as I have before obſerved, a good ſign in diſeaſes. The elevation of the intellectual faculties, I have juſt now mentioned, is, in ſuch caſes, a forerunner of death; but this is very different from that dignity of ſoul peculiar to the ſtoics. The elevation of ſoul, we obſerve in dying people, is not derived from reflection and philoſophy; and it affords a mild and placid effect, which is not ſeen in the other caſe.

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certain day or hour, may be ſo ſtrongly fixed in the imagination, as to co-operate with the feebleneſs of life, in producing death. And this is all we can ſuppoſe on the ſubject. Cardan did, indeed, die, at the age of 75 years, on the very day he had predicted; but it is well known he abſtained from all ſuſtenance, that he might not diſcredit his art.

There are other caſes than thoſe we have mentioned, in which a tranquility of ſoul is not a ſavorable ſign. Aretæus has very judiciouſly remarked, that not only the paſſions occaſion diſeaſes, but that diſeaſes frequently reverſe the natural ſtate of the mind. Thus, he obſerves, that dropſical patients have a certain eaſineſs of temper, and patience, which are not founded ſo much on the hopes of a cure, as on the nature of the diſeaſe. This great phyſician likewiſe remarks, that in caſes of hemoptoë, the patients do not loſe their courage, although the diſeaſe is a very dangerous one; and he very properly attributes this tranquility of mind to the inſenſibility of the lungs; becauſe the leaſt pain commonly excites a fear of death to a certain degree. I have often had occaſion to make the ſame obſervation in phthiſical patients, who, with an abſceſs of the lungs, kept up their hopes till the laſt moment.

A ſudden calm or tranquility, in a diſeaſe accompanied with violent pains, which before diſturbed the mind of the patient, announces death. Thus in inflammations of the inteſtines, a ſudden ceſſation of the pain is a fatal ſign.

A ſudden return of reaſon after phrenzy, likewiſe announces death. In caſes of melancholy, this return, ſometimes, forebodes phrenzy. I attended a young lady, of a very acute and penetrating genius, who had experienced three or four attacks of inſanity, before I ſaw her. Some years after this, ſhe was perfectly well again, and her mind was as brilliant as ever. In this ſituation ſhe became pregnant, was brought to bed, and was ſo weakened by her lying

ing-in, as to be attacked with convulſions. Unfortunately for the patient, an ignorant practitioner, who was called, kept up theſe convulſions during a year, by preſcribing frequent bleedings, purgatives, warm baths, and tea. When I was called to her, ſhe was attacked every four or five days with the moſt frightful convulſions. She recovered, however, by means of my remedies, and, in the opinion of every body, was perfectly cured. She would, indeed, have been ſo, if I had poſſeſſed the art of curing the moral cauſes of diſeaſes.

At the end of a year, ſhe fell into a deep melancholy, occaſioned by manifeſt cauſes. After this, ſhe became wild and frantic, and then again returned to her ſtate of melancholy. She fancied herſelf to be the vileſt of all creatures, marked out from the reſt of mankind by her crimes, and deſtined for eternal miſery (*d*). In her leſs unhappy moments, ſhe ſimply deemed herſelf an inhabitant of hell, but at other, and more melancholy times, ſhe fancied herſelf ſurrounded with flames. The moſt diſagreeable part of her opinions, was her obſtinacy in

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(*d*) Mr. Derham, in his Phyſico Theology, relates ſomething like this of a Mrs. Honeywood, a Kentiſh lady, " who was a " very pious woman, afflicted in her declining age with deſpair, " in ſome meaſure; concerning which ſome divines once diſ- " courſing with her, ſhe in a paſſion ſaid, *She was as certainly* " *damned as this glaſs is broken*, throwing a Venice glaſs againſt " the ground, which ſhe had in her hand. But the glaſs eſcaped " breaking, as credible witneſſes atteſted." *Phyſ. Theol.* page 178.

refuſing to take any medicines. She paſſed her time almoſt wholly in prayer, and in converſation with ſome gloomy eccleſiaſtic. At length, after having continued in this ſtate about a twelvemonth, her melancholy left her on a ſudden. She diſcovered, that her principles, together with the conſequences ſhe had deduced from them, and the total change in her manner of living, had been the effects of a diſturbed imagination. She laid down a very different plan of life, which was rational and agreeable to her ſituation. She ſeemed to have recovered all her penetration and knowledge; but now and then it was perceived, that ſhe laughed in a manner not altogether natural. After paſſing three months in this manner, ſhe relapſed again into the moſt horrible madneſs.

The particulars I have related in this chapter, will prove how extenſive are the ſigns of diſeaſes. I have collected only a ſmall portion of them. The field of nature is too wide, and the human mind too limited, to comprehend, or even to perceive all the phenomena of this ſort that preſent themſelves.

C H A P. V.

Of the Influence of the Art of Obſervation on Experience.

THE ſyſtem of a diſeaſe is not to be attained, by the art of obſervation alone; becauſe, we muſt neceſſarily ſee things as they really are, before we can be able to inquire why they are ſo. The knowledge of particular truths, leads to that of general truths, all of which flow from a chain of well connected obſervations. The knowledge of facts, enables us to eſtabliſh certain axioms. A talent for obſervation may, therefore, be ſaid to furniſh us, with hiſtorical knowledge; and genius, with philoſophical knowledge.

We attend to the ſymptoms of a diſeaſe, becauſe, it is by theſe, we are enabled to diſcern the ſigns, to learn the ſeries of effects, and to aſcend, as it were, by theſe, to the unknown cauſes. We ſhould never become acquainted with the hidden parts of nature, if the things which are ſubmitted to our ſenſes, did not inform us of thoſe which are not. The moment we are acquainted with all the ſymptoms of a diſeaſe, we have only to compare theſe with each other, to diſtinguiſh what is conſtant and uniform, from that which is not, and to combine together the more eſſential ſymptoms, in order to acquire a knowledge of the beginning, the progreſs, and the termination of the diſeaſe. A method, like this, will lead us, with the moſt certainty, to the different cauſes related in the following books of this work, and will enable us to paſs, from theſe cauſes, to the various practical methods of palliating or curing diſeaſes. If we take a general view of the different parts of knowledge, the moſt neceſſary to a phyſician, we ſhall be convinced, that the art of obſervation is a very important one.

Without a knowledge of the ſigns, the greater part of diſeaſes would be to us ſo many impenetrable labyrinths. The nature of diſeaſes is, very often, ſo enveloped and obſcured by a variety of circumſtances, in no way eſſential to it, that we are obliged to have recourſe to circumſtances, of the leaſt importance in themſelves ; becauſe, theſe, being compared with all that has preceded, accompanied, and followed the diſeaſe, will, on many occaſions, afford us the moſt intereſting lights. So great a number of diſeaſes have been conſidered as incurable, only becauſe, the ſigns of them have not been accurately diſtinguiſhed and aſcertained. This is the reaſon too, why compound diſeaſes are ſo often miſunderſtood, and why one diſeaſe is frequently miſtaken for another, and the method of cure, of courſe, reverſed. The obſervation, and exact compariſon, of every circumſtance, and of every indication to be derived from them, become the only ſure, and, at the ſame time, ſimple means of being able to diſcern the character of the ſymptoms, and the ſigns. An accurate and faithful deſcription of their beginning, progreſs, and termination, conſtitutes the hiſtory of the diſeaſe. Hippocrates, who attended to, and examined, every thing profoundly, and whoſe minuteneſs was never fruitleſs, noticed even the colour of the eyes, hair and ſkin, that none of the marks of temperament might eſcape him; and thus was he enabled to aſcertain the diſeaſes, to which his patients were prediſpoſed, and to trace, in his uſual happy manner, the preſent, the paſt, and the future.

The hiſtory of diſeaſes ſeems, therefore, to conſtitute the eſſential part of a phyſician's knowledge. He ought to be informed of the way in which a diſeaſe will terminate, when left to itſelf, becauſe, the buſineſs of the phyſician, being to imitate the operations of nature, he ought to be aware of the manner, in which ſhe directs them. The true, and uniform type of a diſeaſe, can never be learned, if the courſe of nature is changed, by an improper regimen, or impeded by improper remedies. To learn the nature of a diſeaſe, all the circumſtances of it ſhould be ſtudied, in the order and ſtate in which nature herſelf preſents them. The phyſician will do well to note, in every caſe, the apparent and real powers, and likewiſe the efforts, of nature, if all theſe can be perceived, with a certain degree of clearneſs. This will be an object of conſequence, if he wiſhes to judge of the event of a diſeaſe. But he muſt be cautious, not to weaken, or diſturb, or deſtroy theſe powers by any impediments. He ſhould be careful likewiſe, not to multiply, or diverſify the ſimple effect of a ſimple cauſe, if he wiſhes to aſcend from the one to the other. And yet, we often ſee ſimple, and ſteady effects, rendered complex, and undiſtinguiſhable, by the addition of a thouſand circumſtances, that are foreign to their ordinary cauſes; and thus the whole is confuſed. The phyſician himſelf, or the aſſiſtants, frequently give riſe to phenomena, that are not eſſential to the diſeaſe. The ſame thing may happen from other cauſes, ſuch as the mode of treatment, the irregularity of the patients, paſſions of the mind, &c. Hence it is, that all obſervations drawn, with too much haſte, or from caſes improperly treated, are uſeleſs, and ſometimes even dangerous; becauſe, they do not offer to us nature ſuch as ſhe really is, but as ſhe has been, mutilated, or imperfectly ſeen.

The real virtues of medicines will be equally unknown, if we are uninformed of what nature does, or can do, when left to herſelf, and how far her operations will be ſalutary or noxious. As every uſeleſs operation of nature, is conſtantly more or leſs prejudical to the ſick, hence it ſeems to be equally certain, that medicines, which do not produce ſome good effect, are, if they are of any activity, conſtantly more or leſs pernicious. We muſt, therefore, learn how to eſtimate the effects of remedies, if we wiſh to avoid an erroneous application of them, and to diſtinguiſh what ſhare they may have, in the eſſential or accidental ſymptoms of a diſeaſe.

It would ſeem, as if it was the aim of Hippocrates, to lead us to his diſcoveries, and at the ſame time to delineate to us nature, by her moſt diſtinguiſhable ſeatures. Thus, we ſeldom find him ſpeaking of the medicines he employed in his epidemical diſeaſes. He ſeems to aim wholly at following nature, with a view to know her, and to trace out to us the route ſhe follows, when left to herſelf. This is, in good truth, the only way, by which we can learn the effects of medicines, and the ſhare they have in the ſymptoms of a diſeaſe. He has been reproached with having given us the hiſtories of diſeaſes, which, for the moſt part, terminated fatally; but this ſurely, is to reproach him, for what ought to draw on him our admiration and praiſe. Hippocrates, who ſtudied to inform himſelf of the true character of diſeaſes, could not attain this knowledge with more certainty, than by obſerving with the ſcrupulous attention he did, thoſe, in which nature yielded to the ſuperior power of the diſeaſe. This was the only way, in which he could diſcern the eſſential ſymptoms, and thus be enabled to generalize the principles of his art. But he did not confine himſelf to this alone. He obſerved how nature acted, when ſhe was able to overcome the diſraſe, and thus has pointed out to us, how we may beſt imitate her. Hippocrates was, no doubt, aware, that ſucceeding ages would diſcover means of aſſiſting nature, which to him were unknown; but, in the mean time, he was willing to deſcribe her to us with truth, and he has ſo perfectly ſucceeded, that we may always know her, by the features he has delineated. He has, in ſhort, copied nature with ſo much accuracy, that had he never cured a patient, he would not have a leſs claim to the grateful eſteem of poſterity, for having ſhortened the way to obſervation, and for having enabled us to ſay, on many occaſions, what will happen in a diſeaſe, and how it will terminate. The greateſt men in all ages, and even thoſe of the ancients, who envied his reputation, have all of them done him juſtice on this head.

In general, the ancients were very ſparing of remedies, they bled but ſeldom, and contented themſelves, with preſcribing a light and diluting regimen. In this way they were enabled to obſerve nature, becauſe, they never diſturbed her operations. Perhaps, they thought, as Rouſſeau does, that they could not diſtinctly ſee what ought to be done, and, on this account, were deſirous of obſerving the true nature of the diſeaſe, before they ventured to preſcribe for it. And in this they did right. No man can acquire true experience in phyſic, who has not a previous and exact knowledge of the hiſtory of diſeaſes. This is really the baſis of good practice. To attain this, the phyſician muſt obſerve each individual diſeaſe, and then learn to arrange, in the general hiſtory of diſeaſes, the phenomena, in the order in which they preſent themſelves in the generality of diſeaſes. He will then do well to diſtinguiſh the beginning, the progreſs, and the termination, as they occur in the greater number of caſes. The deſcription of uncommon and irregular ſymptoms, ſhould be reſerved for the hiſtory of particular caſes. But, both the one and the other, that is, the hiſtory both of general and individual diſeaſes, can be only a relation of the effects; becauſe, the cauſes can never be eſtabliſhed, till theſe have been fully, and accurately, diſcuſſed. With reſpect to more general and extenſive reflections, which relate to particular caſes, to rules or axioms, or fundamental truths, and, in ſhort, whatever is purely theoretical; all theſe ſhould be reſerved for the cloſe of the hiſtory, when all the data have been delivered, which can enable us to derive luminous deductions from them. The more and the better the eyes have ſeen, the more, likewiſe, will the mind ſee.

Hippocrates conſidered the art of obſervation, as the moſt eſſential part of phyſic; and we all know or ought to know, how much juſtice he has done to this branch of medicinal knowledge. It has been remarked, that the treatment of diſeaſes does not fill a tenth part of his works, all the reſt of them being devoted to the hiſtory of diſeaſes. The Greeks, who followed him, aimed equally at attaining an exact knowledge of the phenomena and ſigns of diſeaſes. This led them to diſtinguiſh the cauſes, and indications of cure. Celſus obſerves, that all the phyſicians, after Hippocrates, had conſtantly adhered to what he had delivered on the ſigns of diſeaſes, although they had introduced many new things. Cælius Aurelianus employed himſelf ſo much on the ſigns, that he very often has omitted to mention the other ſymptoms. Sometimes, we find him, from this knowledge alone, deſcribing diſeaſes with the greateſt preciſion and truth. There are ſome writers, however, who have erred in this way.

Avicenna multiplied the ſigns of diſeaſes, without reaſon. He has been too much imitated in this by ſome modern writers, from the facility with which we give way to the imagination. Phyſicians came to be leſs attached to the knowledge of the ſigns in diſeaſes, when they no longer ſtudied nature in herſelf,

ſelf. This change took place on the appearance of Paracelſus and the chymiſts, who ſought for the ſigns of diſeaſes only in the urine, and who, pretending to cure diſeaſes, without knowing them, thought leſs of adapting their medicines to particular circumſtances, than of univerſal remedies. The mathematical phyſicians expected to find nature in their calculations, and in theſe they ſought for her. The reſult of all their combinations, was an infinity of uſeleſs numbers, and idle ſpeculations. They did not reflect, that they were calculating the motions of organized bodies; and that theſe bodies, having an intrinſic motion, it would be neceſſary to aſcertain the cauſe of this motion, before it would be poſſible to determine its effects; they ſeem to have brought the ſame notions with them, to the ſtudy of the human body, as they would to an hydraulic machine. The cauſes of motion in living organized bodies, being an impenetrable enigma, even in the moſt uniform ſtate of health; it is, ſurely, a mark of folly, to preſume to aſcertain the irregular movements of nature, by hypotheſes, to which other hypotheſes may be oppoſed.

Sydenham, Baglivi, and Stahl, have the glory of having brought us back into the walks of nature. Many celebrated phyſicians of the Leyden ſchool, have ſupported us in this way. We may ſay of theſe, what, in the opinion of a Chineſe philoſopher, is the moſt honorable of all compliments; "*Their century* "*could not do without them.*"

The art of obſervation is, therefore, with reſpect to experience, of the laſt importance, becauſe, the

hiſtory

hiſtory of diſeaſes, as we have before remarked, is the baſis of medical knowledge. But a man may poſſeſs a talent for obſervation, without the faculty of reaſoning, as he ought to do, on the phenomena. This talent for obſervation, muſt neceſſarily be combined with genius. By the former, a man will diſtinguiſh and arrange, what falls under the cognizance of his ſenſes, whilſt the latter, will enable him to perceive the chain of general truths. The one will give him a knowledge of facts; and the other of things. The talent for obſervation, in ſhort, ſhews us, that which Hippocrates taught; and Genius, that which Galen aimed at teaching, and in which he would really have ſucceeded, had he lived in more enlightened times.

It is related of the ſage Lockman, that being one day aſked by Saadi, from what ſources he had derived his knowledge; "*From the blind,*"—replied the philoſopher,—"*who never place their feet, till*
"*they have tried the firmneſs of the ſoil: I obſerved,*
"*before I reaſoned, and I reaſoned before I wrote.*"

END OF VOLUME THE FIRST.